JVC

# SERVICE MANUAL

## MAGNETOSCOPE A CASSETTE

# HR-S4700MS

Hi-Fi

S VHS 625

VHS
PAL SECAM

## CARACTERISTIQUES TECHNIQUES

### GENERALES

Alimentation : CA 220 – 240 V∿, 50/60 Hz
Consommation : 39 W
Températures : 5°C à 40°C (Fonctionnement)
–20°C à 60°C (Stockage)
Position de fonctionnement : Seulement horizontale
Dimensions (LxHxP) : 435 x 123 x 373 mm
Poids : 7,2 kg
Format : Standard S-VHS/VHS PAL/VHS SECAM avec audio Hi-Fi
Largeur de bande : 12,65 mm
Vitesse de bande
(VN) : 23,39 mm/s
(LD) : 11,70 mm/s
Durée maximale d'enregistrement
(VN) : 240 mm avec une cassette vidéo E-240
(LD) : 480 mm avec une cassette vidéo E-240

### VIDEO

Système de signal : Signaux couleur PAL/SECAM et Y/C séparés, 625 lignes/50 trames
Système d'enregistrement : Système à deux têtes rotatives, balayage hélicoïdal avec combinaison de têtes vidéo à double azimut incliné
Entrée : 0,5 à 2,0 Vcc, 75 ohms, asymétrique
Sortie : 1,0 Vcc, 75 ohms, asymétrique
Rapport signal/bruit : 43 dB (mesureur de bruit Rohde & Schwarz)
Résolution horizontale : Plus de 400 lignes (S-VHS)/250 lignes (VHS PAL), 240 lignes (VHS SECAM), la commande de l'image sur sa position "NORMAL"

### AUDIO

Entrée : Micro: –67 dBs, haute impédance, asymétrique
Connecteur ENTREE AUDIO
(RCA x 2): –8 dBs, 50 kohms, asymétrique
Prise PERITELEVISION
–3,8 dBs (standard CENELEC), 10 kohms, asymétrique
Niveau de sortie : Prise PERITELEVISION
–3,8 dBs (standard CENELEC), haute impédance de charge
Connecteur SORTIE AUDIO
(RCA x 2): –6 dBs, haute impédance de charge

### AUDIO NORMAL

Système d'enregistrement : Piste longitudinale
Nombre de canaux audio : 1 (monophonique)
Réponse en fréquence : 70 Hz à 10.000 Hz

### AUDIO HI-FI

Système d'enregistrement : Enregistrement sur couche profonde conforme au standard Hi-Fi VHS
Nombre de canaux audio : 2 canaux audio hi-fi
Réponse en fréquence : 20 Hz à 20.000 Hz
Gamme dynamique : Plus de 90 dB
Pleurage et scintillement : Moins de 0,005 % WRMS

### SYNTONISEUR

Système de syntonisation : Syntoniseur à synthèse de fréquence
Capacité de canaux TV : 48 positions (+ position AUX)
Canaux couverts :

| | Fréquence | Canaux L | Canaux B/G |
|---|---|---|---|
| VHF gamme I | 47 – 111 MHz | Canaux 2 – 4 | Canaux E2 – E4 |
| VHF gamme III | 111 – 300 MHz | Canaux 5 – 10 | Canaux E5 – E12 |
| UHF gamme IV/V | 470 – 862 MHz | Canaux 21 – 69 | Canaux E21 – E69 |
| Canaux câblés | | Canaux B – Q<br>Canaux 70 – 86 | Canaux S1 – S20<br>Canaux X, Y, Z<br>Canaux M1 – M10<br>Canaux U1 – U10 |

Sortie d'antenne : Canal UHF 36 (réglable de 32 à 40)

### MINUTERIE

Référence de l'horloge : Par quartz
Capacité de programmation : Minuterie sur 1 an/8 programmes
Durée de soutien mémoire : 60 mn

### ACCESSOIRES

Accessoires fournis : Câble d'antenne,
Boîtier de télécommande à infrarouge, Pile "R6" x 2
Câble audio (RCA-RCA)
Câble S-vidéo (4 broches/4 broches)

Les caractéristiques techniques sont pour le mode VN à moins d'indication contraire.
Présentation et caractéristiques modifiables sans préavis.

COPYRIGHT © 1991 VICTOR COMPANY OF JAPAN, LTD.

No. 82251
July 1991

**NOTE: For a technical description, please refer to Technical Guide VTG82067 HR-S4700MS.**

# TABLE OF CONTENTS

**Section Title Page**

**Important Safety Precautions**

**INSTRUCTIONS**

## 1. DISASSEMBLY AND MECHANISM ADJUSTMENTS

1.1 DISASSEMBLY ........ 1-1
1.1.1 Top cover ........ 1-1
1.1.2 Front Panel assembly ........ 1-1
1.1.3 Bottom cover ........ 1-1
1.1.4 VIDEO INTERFACE board assembly ........ 1-1
1.1.5 SW. REGULATOR board assembly ........ 1-2
1.1.6 REC board assembly ........ 1-2
1.1.7 TIMER/DISPLAY/SW board assembly ........ 1-2
1.1.8 SECAM PROCESS board assembly ........ 1-2
1.1.9 Cassette housing ........ 1-3
1.1.10 Cassette housing installation ........ 1-3
1.1.11 Main-deck ........ 1-3
1.2 MECHANISM ADJUSTMENTS ........ 1-4
1.2.1 Precautions ........ 1-4
1.2.2 Check without cassette housing ........ 1-4
1.2.3 Manually removing cassette tape ........ 1-4
1.2.4 Test equipment ........ 1-4
1.3 MAIN MECHANISM PARTS ........ 1-5
1.4 INSPECTION AND MAINTENANCE ........ 1-7
1.4.1 Suggested servicing schedule for main components ........ 1-7
1.5 MAIN PARTS REMOVAL AND REPLACEMENT ........ 1-8

## 2. ELECTRICAL ADJUSTMENTS

2.1 PREPARATION ........ 2-1
2.1.1 Required test equipment ........ 2-1
2.1.2 Check and adjustment steps ........ 3-2
2.2 SWITCHING REGULATOR CIRCUIT ........ 2-3
2.3 TIMER CIRCUIT ........ 2-3
2.4 SERVO CIRCUIT ........ 2-4
2.5 VIDEO CIRCUIT ........ 2-5
2.6 PAL/SECAM CONVERTER CIRCUIT ........ 2-11
2.6.1 SECAM — PAL CONVERT ........ 2-11
2.6.2 PAL — SECAM CONVERT ........ 2-13
2.7 AUDIO CIRCUIT ........ 2-17
2.8 TUNER/IF CIRCUIT ........ 2-18
2.9 ON SCREEN CIRCUIT ........ 2-22

## 3. CHARTS AND DIAGRAMS

3.1 CIRCUIT BOARD AND LOCATION ........ 3-1
3.2 GENERAL INFORMATION ........ 3-2
3.2.1 Connections ........ 3-2
3.2.2 Disconnecting the flatwire ........ 3-2
3.2.3 Indications ........ 3-2
3.2.4 Schematic diagram values ........ 3-2
3.2.5 Signal flow in the schematic ........ 3-2
3.2.6 Basic knowledge of SMC* parts replacement ........ 3-3
3.3 BOARD INTERCONNECTION ........ 3-5
3.4 POWER SYSTEM BLOCK DIAGRAM ........ 3-7
3.5 AUDIO BLOCK DIAGRAM ........ 3-9
3.6 SERVO BLOCK DIAGRAM ........ 3-11
3.7 SYSTEM CTL BLOCK DIAGRAM ........ 3-13
3.8 VIDEO BLOCK DIAGRAM ........ 3-16
3.9 SW REG, REGULATOR (1), (2) AND PRIMARY SCHEMATIC DIAGRAM ........ 3-21
3.10 SW REG, REGULATOR (1), (2) AND PRIMARY CIRCUIT BOARD ........ 3-23
3.11 SERVO SCHEMATIC DIAGRAM ........ 3-25
3.12 AUDIO SW SCHEMATIC DIAGRAM ........ 3-27

**Section Title Page**

3.13 SYSTEM CTL SCHEMATIC DIAGRAM ........ 3-29
3.14 DECK TERMINAL, LOADING MDA, CAPSTAN MDA, C. HOUSING SCHEMATIC DIAGRAMS ........ 3-31
3.15 DECK TERMINAL, LOADING MDA, CAPSTAN MDA, C. HOUSING CIRCUIT BOARDS ........ 3-32
3.16 A/S/M CIRCUIT BOARD ........ 3-33
3.17 AUDIO UNIT SCHEMATIC DIAGRAM ........ 3-35
3.18 AUDIO UNIT CIRCUIT BOARD ........ 3-37
3.19 SECAM COLOR SCHEMATIC DIAGRAM ........ 3-37
3.20 SECAM COLOR CIRCUIT BOARD ........ 3-37
3.21 VIDEO INTERFACE SCHEMATIC DIAGRAM ........ 3-40
3.22 VIDEO INTERFACE CIRCUIT BOARD ........ 3-43
3.23 TERMINAL SCHEMATIC DIAGRAM ........ 3-47
3.24 VIDEO UNIT SCHEMATIC DIAGRAM ........ 3-48
3.25 VIDEO UNIT CIRCUIT BOARD ........ 3-51
3.26 TUNER CTL SCHEMATIC DIAGRAM ........ 3-53
3.27 TUNER CTL CIRCUIT BOARD ........ 3-55
3.28 IF SCHEMATIC DIAGRAM ........ 3-57
3.29 IF CIRCUIT BOARD ........ 3-59
3.30 ON SCREEN SCHEMATIC DIAGRAM ........ 3-61
3.31 JACK SCHEMATIC DIAGRAM ........ 3-63
3.32 JACK CIRCUIT BOARD ........ 3-63
3.33 TIMER AND SW/DISPLAY SCHEMATIC DIAGRAM ........ 3-65
3.34 TIMER AND SW/DISPLAY CIRCUIT BOARDS ........ 3-67
3.35 PRE AMP SCHEMATIC DIAGRAM ........ 3-69
3.36 PRE AMP CIRCUIT BOARD ........ 3-71
3.37 RF CONVERTER SCHEMATIC DIAGRAM ........ 3-73
3.38 REC AMP SCHEMATIC DIAGRAM ........ 3-74
3.39 REC AMP CIRCUIT BOARD ........ 3-77
3.40 REMOTE CONTROL SCHEMATIC DIAGRAM ........ 3-79
3.41 SECAM PROCESS SCHEMATIC DIAGRAM ........ 3-80
3.42 SECAM PROCESS CIRCUIT BOARD ........ 3-83
3.43 CH PLUS (SECAM PROCESS) SCHEMATIC DIAGRAM ........ 3-85

## 4. EXPLODED VIEWS AND PARTS LIST

4.1 PACKING ASSEMBLY <M1> ........ 4-1
4.2 CABINET ASSEMBLY <M2> ........ 4-2
4.3 CHASSIS ASSEMBLY <M3> ........ 4-3
4.4 MECHANISM ASSEMBLY <M4> ........ 4-4
4.5 REMOTE CONTROL UNIT <M5> ........ 4-6

## 5. ELECTRICAL PARTS LIST

SWITCHING REGULATOR BOARD ASSEMBLY <01><02><18>... 5-1
A/S/M BOARD ASSEMBLY <04> ........ 5-3
TUNER IF BOARD ASSEMBLY <07> ........ 5-11
TUNER CONTROL BOARD ASSEMBLY <08> ........ 5-12
AUDIO UNIT BOARD ASSEMBLY <09> ........ 5-14
VIDEO INTERFACE BOARD ASSEMBLY <10><88> ........ 5-16
A/C HEAD BOARD ASSEMBLY <12> ........ 5-23
TIMER BOARD ASSEMBLY <20> ........ 5-23
JACK BOARD ASSEMBLY <22> ........ 5-24
SWITCH/DISPLAY BOARD ASSEMBLY ........ 5-25
PRE AMP BOARD ASSEMBLY <42> ........ 5-26
REC BOARD ASSEMBLY <43> ........ 5-27
DECK TERMINAL BOARD ASSEMBLY <51> ........ 5-30
LOADING MDA BOARD ASSEMBLY <55> ........ 5-30
CASSETTE HOUSING BOARD ASSEMBLY <56> ........ 5-31
UPPER DRUM BOARD <62><63> ........ 5-31
SECAM PROCESS BOARD ASSEMBLY <87> ........ 5-31

## 6 TECHNICAL INFORMATIONS

6.1 CPU PIN FUNCTIONS ........ 6-1

# Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## ● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
   Replace only with specified part numbers.
   **Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.**

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

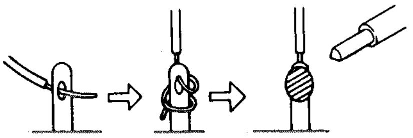


**Fig. 1**

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

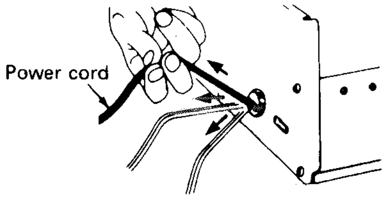


**Fig. 2**

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

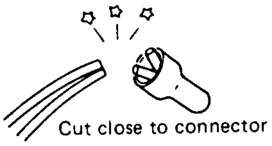


**Fig. 3**

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

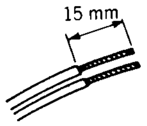


**Fig. 4**

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

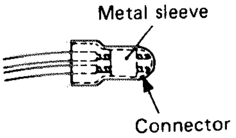


**Fig. 5**

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

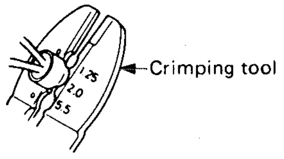


**Fig. 6**

(5) Check the four points noted in Fig. 7.

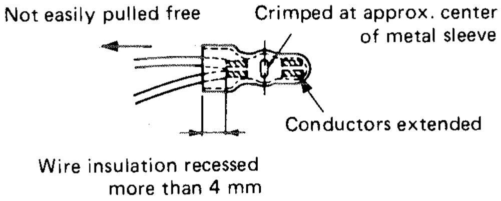

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

**Fig. 7**

# ● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

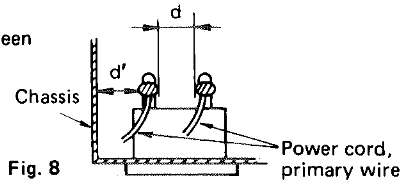


**Fig. 8**

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   **Measuring Method:** (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

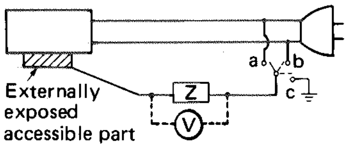


**Fig. 9**

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   **Measuring Method:**
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

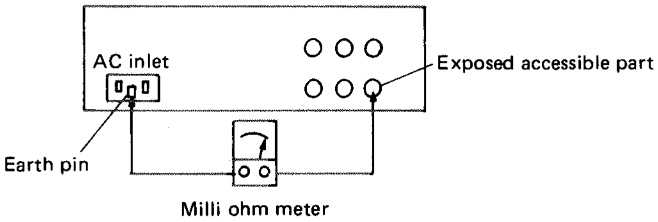


**Fig. 10**

**Grounding Specifications**

| Region | Grounding Impedance (Z) |
|---|---|
| USA & Canada | Z ≦ 0.1 ohm |
| Europe & Australia | Z ≦ 0.5 ohm |

| AC Line Voltage | Region | Insulation Resistance (R) | Dielectric Strength | Clearance Distance (d), (d') |
|---|---|---|---|---|
| 100 V | Japan | R ≧ 1 MΩ/500 V DC | AC 1 kV 1 minute | d, d' ≧ 3 mm |
| 100 to 240 V | | | AC 1.5 kV 1 minute | d, d' ≧ 4 mm |
| 110 to 130 V | USA & Canada | – | AC 900 V 1 minute | d, d' ≧ 3.2 mm |
| 110 to 130 V<br>200 to 240 V | Europe & Australia | R ≧ 10 MΩ /500 V DC | AC 3 kV 1 minute (Class II)<br>AC 1.5 kV 1 minute (Class I) | d ≧ 4 mm<br>d' ≧ 8 mm (Power cord)<br>d' ≧ 6 mm (Primary wire) |

**Table 1** Specifications for each region

| AC Line Voltage | Region | Load Z | Leakage Current (i) | a, b, c |
|---|---|---|---|---|
| 100 V | Japan | 1 kΩ | i ≦ 1 mA rms | Exposed accessible parts |
| 110 to 130 V | USA & Canada | 0.15 μF<br>1.5 kΩ | i ≦ 0.5 mA rms | Exposed accessible parts |
| 110 to 130 V<br>220 to 240 V | Europe & Australia | 2 kΩ | i ≦ 0.7 mA peak<br>i ≦ 2 mA dc | Antenna earth terminals |
| | | 50 kΩ | i ≦ 0.7 mA peak<br>i ≦ 2 mA dc | Other terminals |

**Table 2** Leakage current specifications for each region

**Note:** These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

# MANUEL D'INSTRUCTIONS

## Pour votre sécurité

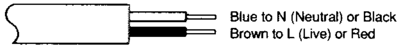
La plaque d'identification et les précautions à observer pour votre sécurité se trouvent sur l'arrière de l'appareil.

**ATTENTION — TENSION DANGEREUSE A L'INTERIEUR**
**ATTENTION: POUR EVITER TOUT RISQUE D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER CET APPAREIL A LA PLUIE NI A L'HUMIDITE.**

**IMPORTANT (In the United Kingdom)**
**Mains Supply (240 V∿, 50 Hz only)**

**IMPORTANT**

Do not make any connection to the Larger Terminal coded E or Green. The wires in the mains lead are coloured in accordance with the following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows:
Blue wire to terminal coded N (Neutral) or coloured Black.
Brown wire to terminal coded L (Live) or coloured Red.
***If in doubt — consult a competent electrician.***

### ATTENTION

- Si vous n'avez pas l'intention d'utiliser le magnétoscope pendant une longue période, il est recommandé de débrancher son cordon d'alimentation de la prise secteur.
- Tension dangereuse à l'intérieur. Pour les réparations internes, s'adresser à un personnel qualifié. Pour éviter l'électrocution ou les risques d'incendie, débrancher le cordon d'alimentation de la prise secteur avant de raccorder ou de débrancher tout câble de signal ou d'antenne.

**Omkopplaren MARCHE på denna apparat är sekundärt kopplad och skiljer inte apparaten frå nätet i läge MARCHE OFF.**

La touche MARCHE ne coupe pas complètement l'alimentation de l'appareil, mais commute le courant de fonctionnement.

**BEMAERK:** I stilling OFF er apparatet stadig forbundet med lysnettet Hvis det Ønskes fuldstændig afbrudt skai netledningen trækkes ud.

Cet appareil a été fabriqué pour être conforme aux directives 76/889/CEE, 82/499/CEE, 87/308/CEE et au standard CEI 65.

Les bandes vidéo enregistrées avec ce magnétoscope dans le mode LD (longue durée) ne peuvent pas être lues sur un magnétoscope à simple vitesse.

**IMPORTANT:** Il peut être illégal d'enregistrer ou de lire du matériel protégé par copyright sans le consentement du détenteur des droits d'auteur.

ATTENTION
La prise CA commutée ne doit pas être utilisée pour le raccordement de téléviseurs ou d'autres appareils pour lesquels une commutation non prévue pourrait provoquer un incendie ou d'autres risques.

S VHS 625
VHS
PAL/SECAM

Les cassettes portant la marque "S-VHS" et "VHS" peuvent être utilisées avec ce magnétoscope. Toutefois, les enregistrements S-VHS sont possibles qu'avec des cassettes marquées "S-VHS".

COPYRIGHT © 1991 VICTOR COMPANY OF JAPAN, LTD.

## Sommaire

**Commandes, indicateurs et connecteurs** .......... 3
**Introduction de votre magnétoscope** .......... 5

### *Débuter*

**Faire les bons raccordements** .......... 7
**Réglage de l'horloge** .......... 10
**Réglage du syntoniseur** .......... 11
**Manipulation des cassettes vidéo** .......... 13
**Affichage des modes — leurs significations** .......... 14

### *Fonctionnement de base de votre magnétoscope*

**Lecture** .......... 15
**Enregistrement** .......... 16
**Enregistrement par minuterie** .......... 17

### *Fonctions spécifiques à votre magnétoscope*

**Pour la lecture** .......... 21
**Pour l'enregistrement** .......... 23
**Pour l'accès sur bande** .......... 26
**Pour l'enregistrement par minuterie** .......... 27
**Pour le montage** .......... 31

### *Fonctions pratiques de votre magnétoscope*

**Opérations spéciales** .......... 34
**Changement de canaux préréglés** .......... 35
**Utilisation de la télécommande pour le fonctionnement TV** .......... 36

**Liste des messages du panneau d'affichage** .......... 37
**Précautions à observer** .......... 38
**En cas de difficulté** .......... 39
**Note spéciale sur le nettoyage des têtes** .......... 40
**Caractéristiques techniques** .......... 41
**Informations importantes sur les systèmes couleur** .......... 42
**Numéros des canaux réels et indications des canaux TV correspondant** .......... 42

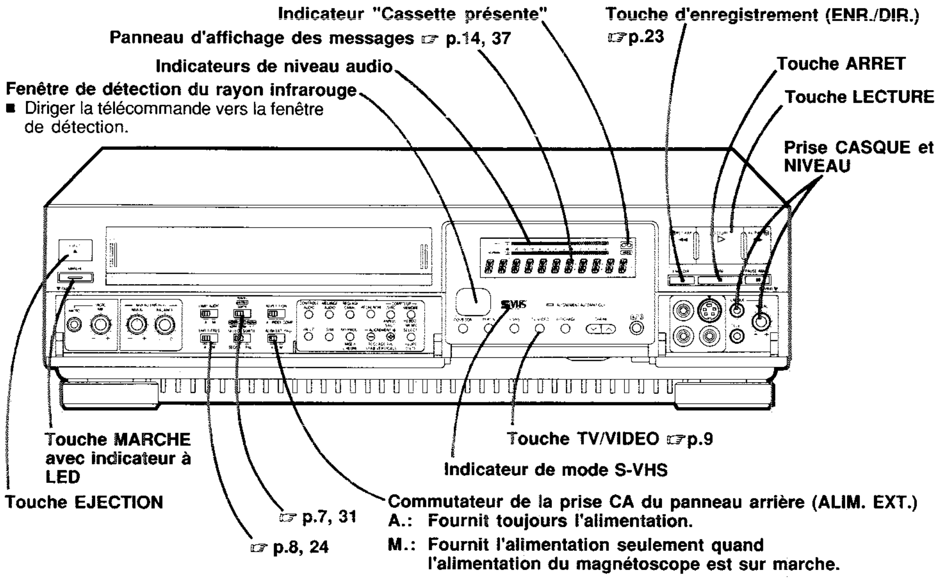
**Comment utiliser ce manuel d'instructions**

Ce manuel d'instructions a été conçu en pensant à la fois aux utilisateurs débutants et aux utilisateurs expérimentés. La première moitié donne des instructions détaillées étape par étape pour le réglage de votre magnétoscope, et l'utilisation de ses fonctions de base. La seconde moitié donne des instructions sur les autres fonctions nombreuses disponibles sur votre magnétoscope. Ainsi, seulement en suivant les instructions des sections "Le début" et "Fonctionnement de base" de ce manuel, vous pouvez dominer toutes les fonctions de base de votre magnétoscope, comprenant l'enregistrement par minuterie. Une fois que vous vous serez familiarisé avec le fonctionnement de base, ou si vous êtes déjà un utilisateur vidéo expérimenté, vous pouvez passer aux fonctions plus avancées introduites dans les pages suivantes. Les caractéristiques concernées ont toutes été regroupées ensemble pour une référence commode, et leurs catégories (lecture, enregistrement, minuterie, etc.) sont facilement reconnaissables par le symbole apparaissant en tête de page. Si vous avez encore besoin de vous référer à une autre page pour des instructions ou des informations, vous le saurez par le repère ☞ pointant sur le numéro de la page.

Si vous souhaitez utiliser pleinement le potentiel de votre magnétoscope, veuillez utiliser effectivement ce manuel. C'est la façon la plus sûre et la plus rapide pour découvrir tout le potentiel de votre nouveau magnétoscope JVC.

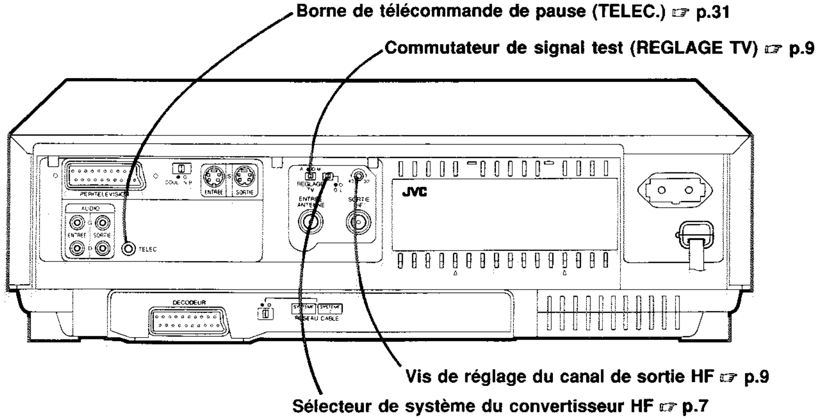
# Commandes, indicateurs et connecteurs

## Panneau avant



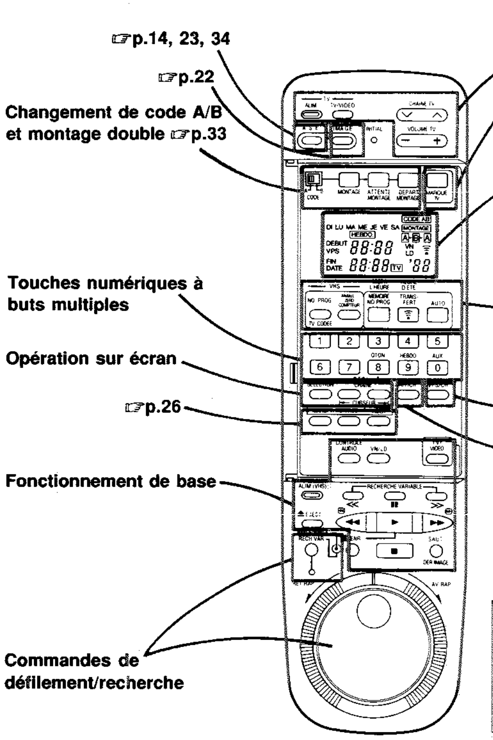
Indicateur "Cassette présente"
Panneau d'affichage des messages ☞ p.14, 37
Indicateurs de niveau audio
Fenêtre de détection du rayon infrarouge
■ Diriger la télécommande vers la fenêtre de détection.
Touche d'enregistrement (ENR./DIR.) ☞p.23
Touche ARRET
Touche LECTURE
Prise CASQUE et NIVEAU
Touche MARCHE avec indicateur à LED
Touche EJECTION
☞ p.7, 31
☞ p.8, 24
Touche TV/VIDEO ☞p.9
Indicateur de mode S-VHS
Commutateur de la prise CA du panneau arrière (ALIM. EXT.)
A.: Fournit toujours l'alimentation.
M.: Fournit l'alimentation seulement quand l'alimentation du magnétoscope est sur marche.

## Panneau arrière



Borne de télécommande de pause (TELEC.) ☞ p.31
Commutateur de signal test (REGLAGE TV) ☞ p.9
Vis de réglage du canal de sortie HF ☞ p.9
Sélecteur de système du convertisseur HF ☞ p.7
JVC

## Télécommande sans fil



☞p.14, 23, 34
☞p.22
Changement de code A/B et montage double ☞p.33
Touches numériques à buts multiples
Opération sur écran
☞p.26
Fonctionnement de base
Commandes de défilement/recherche
Touches de fonctionnement TV ☞p.36
LCD (Affichage à cristaux liquides)
Minuterie et compteur de bande
☞p.30, 35
Touche d'affichage ☞p.14, 23, 26

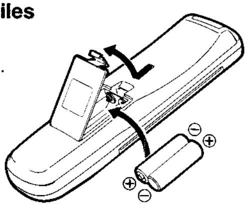
**Utilisation**
La télécommande peut commander la plupart des fonctions de votre magnétoscope, ainsi que les fonctions de base de certains téléviseurs JVC et d'autres marques. ☞ p. 36.
- ■ Diriger la télécommande vers la fenêtre de détection.
- ■ La distance de fonctionnement maximale de la télécommande est d'environ 8 m.

### REMARQUE:

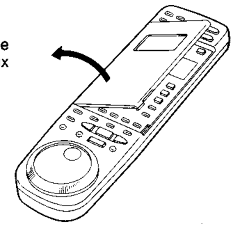
Vous avez la possibilité, si besoin est, d'effacer la mémoire de la télécommande en appuyant sur la touche "INITIAL" à l'aide d'un objet pointu.

### Mise en place des piles

1. Ouvrir le couvercle du compartiment des piles dans le sens de la flèche.
2. Introduire deux piles de taille "R6" (fournies) dans le bon sens en respectant les polarités.
3. Remettre le couvercle.



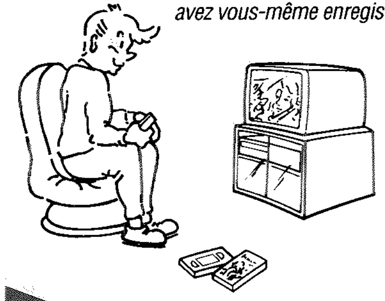
Ouvrir le capot comme illustré pour avoir accès aux touches sous le capot.

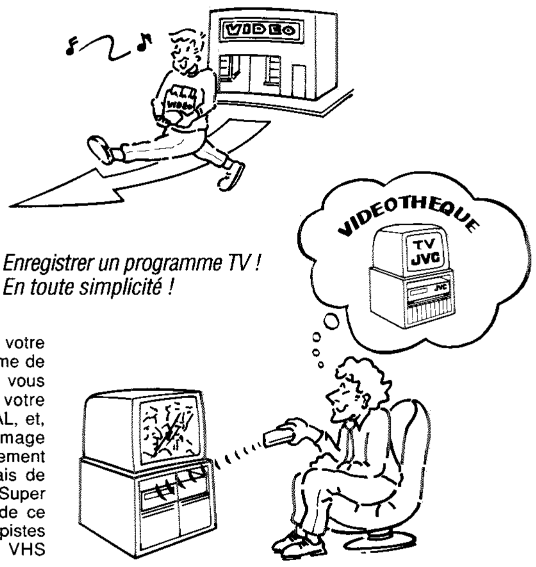


# Introduction de votre magnétoscope

## Les 3 façons élémentaires d'utiliser votre magnétoscope

*Profitez des cassettes préenregistrées ou que vous avez vous-même enregistré !*





*Enregistrer un programme TV !*
*En toute simplicité !*

### Lecture

Avec ce magnétoscope correctement raccordé à votre téléviseur, vous pourrez regarder une variété énorme de programmes vidéo. Profiter des bandes VHS que vous avez déjà, profiter de la possibilité PAL de votre magnétoscope pour regarder des bandes VHS PAL, et, bien sûr pleinement apprécier la qualité d'image remarquable des bandes Super VHS — pas seulement des programmes que vous avez enregistrés, mais de programmes enregistrés sur tout magnétoscope Super VHS européen. Et, grâce aux possibilités Hi-Fi de ce magnétoscope, vous pourrez toujours profiter des pistes son Hi-Fi de la plupart des programmes VHS préenregistrés.

*Enregistrer des programmes TV pendant votre absence.*
*Vous pourrez les visionner dès votre retour.*

LE DERNIER SPECTACLE

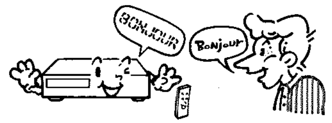
### Enregistrement

Ce magnétoscope vous offre un choix d'enregistrement en VHS ou en S-VHS. Grâce à la haute résolution du S-VHS, vous pourrez enregistrer des programmes TV sans aucune perte de la qualité d'image originale. Le S-VHS est également économique, car vous pouvez enregistrer dans le mode LD plus long et encore obtenir une excellente qualité d'image. Et quand vous avez besoin d'enregistrer en VHS — pas de problème. Introduisez simplement une cassette VHS et vous êtes prêts.

### Enregistrement par minuterie

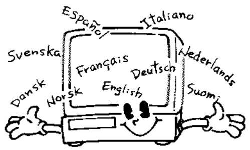
En utilisant la minuterie incorporée, vous pouvez régler votre magnétoscope pour enregistrer des programmes pendant votre absence. Vous pourrez ainsi les visionner dès votre retour, à votre convenance !!

## Quelques autres fonctions sur votre magnétoscope



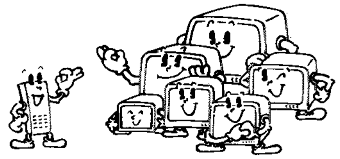
### Panneau d'affichage des "messages"

Votre magnétoscope vous "parle" à partir de son panneau d'affichage des messages. Il est facile de comprendre ce que fait le magnétoscope à tout moment — une façon plus amicale de communiquer avec votre magnétoscope.



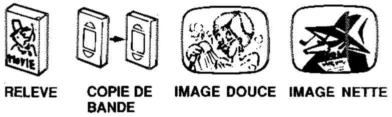
### Affichage sur écran en plusieurs langues

Dix langues au choix. Ainsi vous pouvez contrôler le mode engagé, programmer la minuterie, et davantage, tout en regardant les messages sur écran dans votre propre langue.



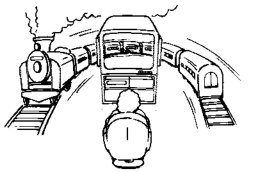
### Télécommande compatible avec plusieurs marques de téléviseur

Compatible avec la plupart des grandes marques de téléviseur pour les fonctions de commande de base. Met une fin à la télécommande à deux mains.



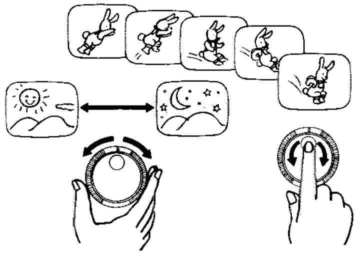
### Commande d'image

Commande à une touche sur le type d'image vidéo que vous voulez. Pour la rendre plus claire, pour la rendre meilleure pour la copie, pour la rendre plus douce ou plus nette, le tout avec la commande d'image.



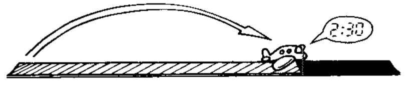
### Son Hi-Fi stéréo

Profitez des films avec pistes son Hi-Fi stéréo comme au cinéma.



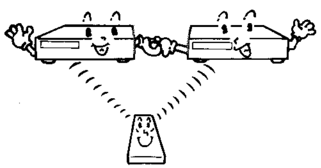
### Commandes de défilement/recherche

Recherche visuelle précise et rapide du ralenti à l'accéléré, ou recherche image par image, dans un sens ou l'autre. Utile en montage ou en lecture.



### Recherche de blanc

Grâce à cette fonction, le magnétoscope détecte automatiquement la fin de la dernière séquence enregistrée sur votre bande. Le compteur en temps restant vous permet de savoir si vous avez la possibilité d'insérer le nouveau programme que vous souhaitez enregistrer.



### Montage double

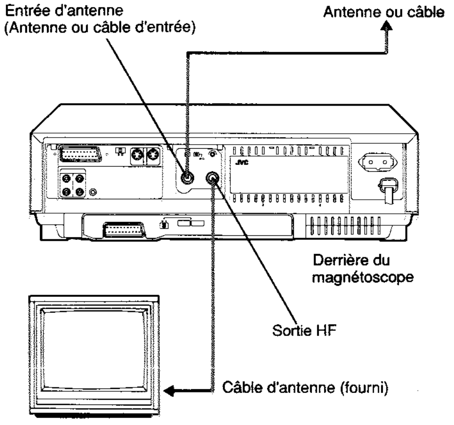
Avec une seule télécommande, vous avez la possibilité d'effectuer très simplement du montage entre deux magnétoscopes JVC.

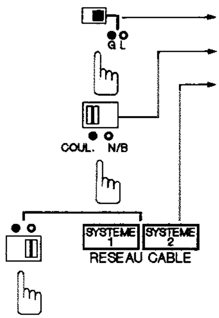
# Faire les bons raccordements

Il est essentiel que votre magnétoscope soit correctement branché pour des résultats corrects. Bien suivre ces étapes.
CES ETAPES DOIVENT ETRE TERMINEES AVANT D'EFFECTUER TOUTE OPERATION VIDEO.

## A RACCORDEMENT MAGNETOSCOPE-TELEVISEUR

### RACCORDEMENT HF

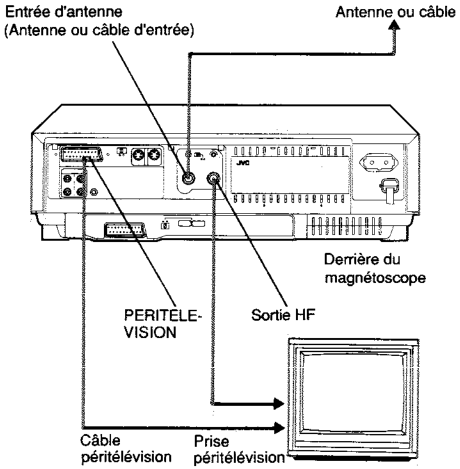

Entrée d'antenne
(Antenne ou câble d'entrée)
Antenne ou câble
Derrière du magnétoscope
Sortie HF
Câble d'antenne (fourni)

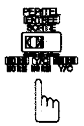

G L
COUL. N/B
SYSTEME 1
SYSTEME 2
RESEAU CABLE

- Régler sur "L".
- Régler sur COUL.
- Positionner le sélecteur RESEAU CABLE correctement en fonction du type de système de réseau câblé de votre région, puis débrancher et rebrancher le cordon secteur pour valider cette fonction.
  SYSTEME 1: Pour recevoir les canaux B à Q.
  SYSTEME 2: Pour recevoir les canaux 70 à 86.

**REMARQUE:**
- Si vous utilisez votre magnétoscope dans des pays autres que la France (comme en Belgique, au Luxembourg, en Suisse ou en Allemagne), régler le commutateur G/L sur G.
- Dans des régions où des émissions en noir et blanc sont dominantes, ou si vous lisez principalement des bandes en noir et blanc, régler le commutateur COUL./N/B. sur N/B.
- Si vous avez besoin de plus d'informations sur la compatibilité multi-système, ☞ p.42.

### RACCORDEMENT PERITELEVISION

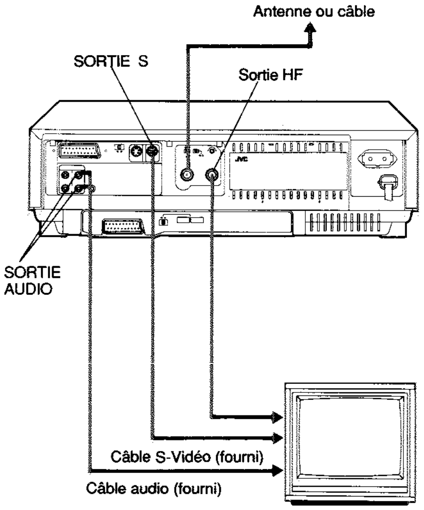

Entrée d'antenne
(Antenne ou câble d'entrée)
Antenne ou câble
Derrière du magnétoscope
PERITELE-VISION
Sortie HF
Câble péritélévision
Prise péritélévision


PERITEL ENTREE SORTIE
NORM Y/C

- Régler le commutateur PERITEL (ENTREE) SORTIE du panneau avant sur NORM ou Y/C en fonction du type de la prise péritélévision de votre téléviseur. Les indications de la ligne inférieure sont pour les réglages de sortie.)
  NORM: Pour prise péritélévision seulement composite
  Y/C: Pour prise péritélévision compatible Y/C

**REMARQUE:**
- Des signaux PAL ou SECAM peuvent être sortis de la prise A/V ENTREE/SORTIE en fonction du réglage du sélecteur SELECT SORTIE. Pour plus d'informations sur la compatibilité multi-système, ☞ p.42.
- Si votre téléviseur n'est pas stéréo, utiliser les connecteurs SORTIE AUDIO du magnétoscope pour le raccordement à un amplificateur audio pour la reproduction du son Hi-Fi stéréo.

### RACCORDEMENT S A 4 BROCHES


Antenne ou câble
SORTIE S
Sortie HF
SORTIE AUDIO
Câble S-Vidéo (fourni)
Câble audio (fourni)

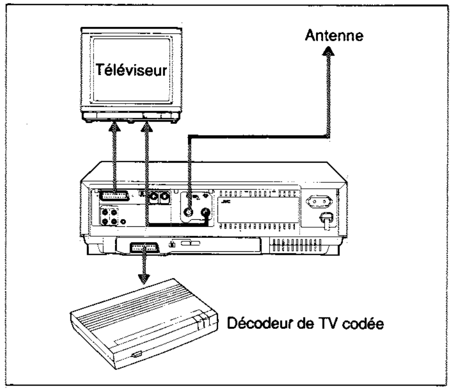
S-VHS

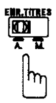
- Si votre téléviseur est équipé d'une entrée S-Vidéo à 4 broches, y raccorder le connecteur SORTIE S du magnétoscope.
- Bien raccorder les connecteurs SORTIE AUDIO du magnétoscope au téléviseur ou à un amplificateur audio.

**REMARQUE:**
- Pour la commutation du mode d'entrée de votre téléviseur, se reporter au manuel d'instructions de votre téléviseur.

## B RACCORDEMENT DECODEUR-MAGNETOSCOPE

Si vous êtes abonné aux programmes TV codés, raccorder simplement votre décodeur (fourni par les stations TV codées) à la prise DECODEUR de votre magnétoscope. Vous pourrez ainsi profiter des programmes TV codés comme des programmes ordinaires en enregistrement ou même en enregistrement par minuterie.


Téléviseur
Antenne
Décodeur de TV codée


SOUS-TITRES
A M

- Si votre décodeur est équipé d'une sortie RVB pour les sous-titres, votre magnétoscope peut enregistrer les sous-titres en réglant ce commutateur sur "M." et le commutateur MARCHE/ARRET des sous-titres du décodeur sur marche.
- Pour simplement regarder les programmes avec sous-titrage, régler le commutateur MARCHE/ARRET des sous-titres du décodeur sur marche. (Votre téléviseur doit être compatible RVB.)

**REMARQUE:**
- La fonction messagerie du nouveau décodeur C+ est impossible lorsque le magnétoscope est positionné sur la chaîne C+ et de plus en mode TV (vous regardez une autre chaîne sur votre téléviseur).

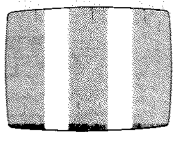
# Faire les bons raccordements (suite)

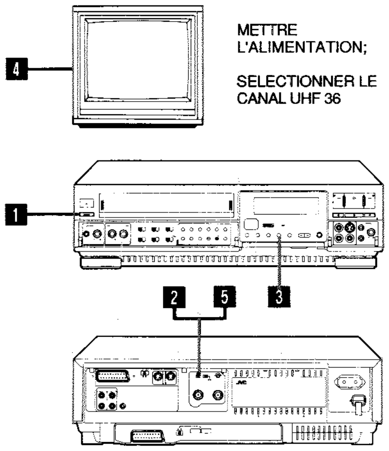
## C REGLAGE DU CANAL VIDEO (UHF 36)

Avec un raccordement RF, le magnétoscope envoie les signaux de l'image et du son par le câble de raccordement à votre téléviseur sur le canal UHF 36. Ajuster finement le convertisseur RF pour s'adapter à votre téléviseur.

### PROCEDURE

1. Mettre en marche le magnétoscope.
2. Régler le commutateur REGLAGE TV sur M.
3. Appuyer sur la touche TV/VIDEO. ("VIDEO" apparaît sur le panneau d'affichage. Ceci indique que le mode VIDEO du magnétoscope est engagé.)
4. Régler votre téléviseur sur le canal UHF 36 et l'ajuster finement pour obtenir le plus clairement possible deux barres blanches verticales sur l'écran.
5. Une fois le réglage terminé, replacer le commutateur REGLAGE TV sur A.




4
METTRE L'ALIMENTATION;
SELECTIONNER LE CANAL UHF 36
1
2
5
3

### REMARQUE:

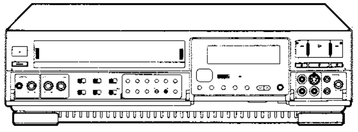
Si du bruit d'interférence est visible sur l'écran à cause d'émissions sur des canaux voisins, il est nécessaire de décaler le canal vidéo du canal UHF 36. C'est possible pour les canaux UHF 32 à 40. Consulter votre revendeur JVC pour effectuer ce réglage.

### IMPORTANT:

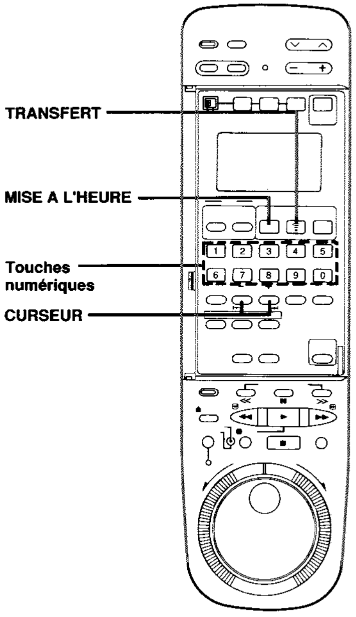
Pour faire fonctionner le magnétoscope avec votre téléviseur en utilisant un raccordement HF, il est toujours nécessaire de régler le canal de votre téléviseur sur le canal UHF 36 (ou le canal ajusté). Avec un raccordement AV, régler le téléviseur sur le mode VIDEO (ou AV).
La touche TV/VIDEO change le mode du magnétoscope entre TV et VIDEO. Quand l'alimentation du magnétoscope est mise, le magnétoscope est dans le mode TV. Pour utiliser les fonctions du magnétoscope, vous positionnez en mode "VIDEO".

# Réglage de l'horloge

Comme votre magnétoscope base toutes ses "décisions" de marche et d'arrêt d'enregistrement par minuterie sur l'heure de l'horloge incorporée, un réglage précis de cette horloge est crucial pour des bons résultats d'enregistrement par minuterie. Et, comme l'horloge LCD de la télécommande et l'horloge du magnétoscope doivent être réglées à la même heure, ce chapitre décrit la façon la plus commode de régler les deux horloges — régler l'horloge LCD et transférer son réglage à l'horloge du magnétoscope.

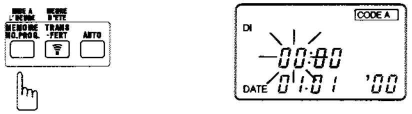


**Brancher le magnétoscope**


TRANSFERT
MISE A L'HEURE
Touches numériques
CURSEUR

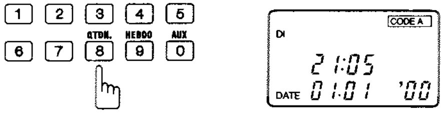
## A COMMENCER LE REGLAGE DE L'HORLOGE

1. Appuyer sur MISE A L'HEURE.


MISE A L'HEURE
HEURE D'ETE
MEMOIRE NO.PROG.
TRANS-FERT
AUTO
CODE A
DI
00:00
DATE 01.01 '00

## B ENTRER L'HEURE

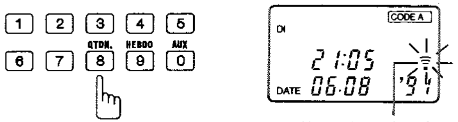
2. Appuyer sur les touches numériques appropriées.


1 2 3 4 5
QTDN. HEBDO AUX
6 7 8 9 0
CODE A
DI
21:05
DATE 01.01 '00

- Toujours entrer "0" devant une entrée à un seul chiffre.

## C ENTRER LA DATE (JOUR/MOIS/ANNEE)

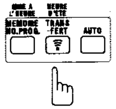
3.


1 2 3 4 5
QTDN. HEBDO AUX
6 7 8 9 0
CODE A
DI
21:05
DATE 06.08 '97

Marque de transfert prêt

## D TRANSFERT ET DEMARRAGE DE L'HORLOGE

4. Appuyer sur TRANSFERT.


MISE A L'HEURE
HEURE D'ETE
MEMOIRE NO.PROG.
TRANS-FERT
AUTO

- L'horloge de la télécommande démarrera. En même temps, les données de réglage seront transférées au magnétoscope.

### REMARQUE:

Si vous voulez régler l'horloge du magnétoscope directement en se référant à l'affichage des messages, ☞ p.34. Pour un réglage rapide de l'heure d'été, ☞ p.34.

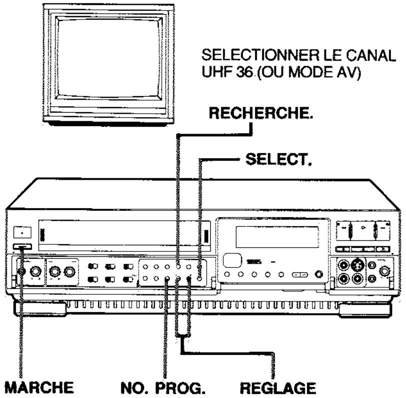
### POUR FAIRE DES CORRECTIONS

Appuyer sur une touche CURSEUR pour que l'item que vous voulez changer clignote.

# Réglage du syntoniseur

La procédure introduite ici vous permet d'affecter les canaux recevables dans votre région à des positions de canal sur le syntoniseur de votre magnétoscope. Une fois en mémoire, ils peuvent être atteints avec la touche CHAINE ∨/∧. Pendant le balayage des canaux, les positions de canal vides du syntoniseur seront sautées, ainsi vous n'avez pas à passer par des canaux "vierges" pour atteindre celui que vous voulez.

Si vous avez raccordé un décodeur (☞ p.8), les canaux TV codés peuvent également être mémorisés dans n'importe lesquelles des 48 positions de canal.



### POUR DECODER LE CANAL

- Si une image anormale apparaît sur l'écran quand le balayage s'arrête, le canal reçu peut être un canal TV codé.
- Appuyer sur NO. PROG. Ceci corrigera l'image si un décodeur approprié est raccordé.

TV CODEE M

## A RECHERCHE DES CANAUX RECEVABLES

1 Appuyer sur RECHERCHE.

- Le balayage automatique s'arrêtera quand une émission est détectée.

CANAL CF:02

CANAL CF:10

SAUT 1

## B ACCORD FIN D'UN CANAL

- Contrôler l'image sur l'écran TV, et faire un accord fin si nécessaire. Quand l'image est claire, passer à l'étape C.

2 Appuyer sur SELECT.

SELECT.
HEURE D'ETE

3 Appuyer sur REGLAGE (+ ou –) pour que le signe "–" apparaisse au centre.

—ALIGNEMENT—
REGLAGE FIN/ STAB.VERTICALE

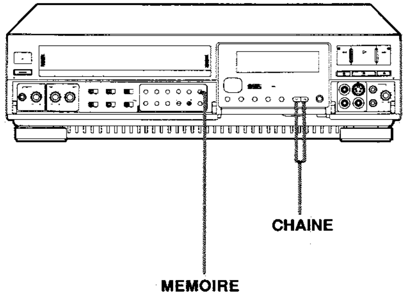
FIN- CF:10

4

SELECT.
HEURE D'ETE

### IMPORTANT

- "CF" est l'indicateur de bande quand des émissions en SECAM-L sont balayées.
- Après le balayage des canaux "CF", les canaux "Ch" (PAL B/G VHF et UHF), puis "CC" (Câble PAL B/G) sont balayés.
- Pour contrôler les images de tous les canaux recevables (L et B/G) sur l'écran du téléviseur, nous vous recommandons de régler le téléviseur sur le mode AV. Sinon, si le sélecteur de système du convertisseur RF du panneau arrière est régler sur "L", seuls les canaux SECAM-L peuvent être contrôlés sur l'écran du téléviseur.
- Pour plus d'informations sur la compatibilité multi-système, ☞ p.42.

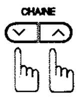


### REMARQUES:

- Si vous ne voulez pas mettre en mémoire l'émission détectée dans l'étape B, appuyer simplement sur RECHERCHE pour continuer le balayage automatique. La recherche s'arrêtera dès qu'une autre émission est détectée.
- Bien passer à l'étape suivante dans les 10 secondes, sinon la recherche des canaux sera automatiquement annulée. Si cela arrive et que vous voulez continuer le réglage des canaux, appuyer à nouveau sur RECHERCHE. Le balayage des canaux reprendra, commençant avec le prochain canal recevable.
- Une fois mémorisés, les canaux TV codés seront automatiquement décodés par le décodeur raccordé quand ils sont sélectionnés.
- Pour la correspondance entre les émetteurs TV et les indications de canal réel du magnétoscope ☞p. 42.

## C SELECTION D'UNE POSITION DU SYNTONISEUR

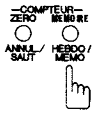
5 Appuyer sur CHAINE pour sélectionner la position de canal du syntoniseur où vous voulez ranger cette émission.



SAUT 1

## D MISE EN MEMOIRE DU CANAL

6 Appuyer sur MEMO.



MEMO 1

CANAL CF 10

- Ce message indique que le canal VHF 10 a été mis en mémoire dans la position de canal 1 du syntoniseur.
- Si un canal TV codé a été mémorisé, l'affichage montre:

MEMO C 1

## E CONTINUATION

7 Reprendre les étapes 2 à 6 pour d'autres canaux recevables.

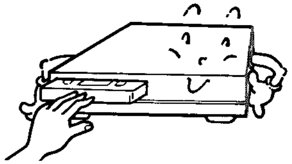
### CHANGEMENT DE CANAUX PREREGLES

☞ p.35.

# Manipulation des cassettes vidéo

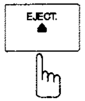
## A MISE EN PLACE D'UNE CASSETTE

1. Introduire une cassette avec son côté portant l'étiquette face à vous.
   - En introduisant une cassette, le compteur est remis automatiquement à 0:00:00.



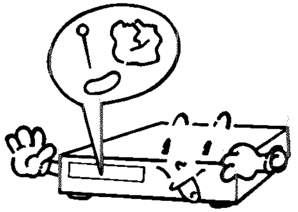
## B RETRAIT D'UNE CASSETTE

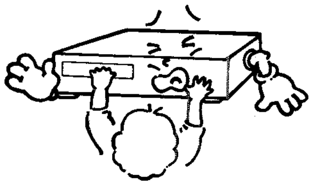
1. Appuyer sur EJECT.



### AVERTISSEMENT

- Ne pas introduire les doigts ni d'objets étrangers dans la fenêtre de chargement de la cassette, cela pourrait causer des blessures ou endommager le mécanisme. Montrer une attention particulière avec les enfants.
- Ne pas essayer de retirer la cassette une fois que la mise en place a été engagée.





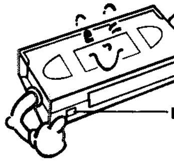
### Cassettes utilisables et leur durée d'enregistrement

Des cassettes VHS ou S-VHS peuvent être utilisées avec votre magnétoscope. Toutefois, pour faire des enregistrements S-VHS, vous devez utiliser des cassettes S-VHS.

| | Type de cassette | Durée d'enregistrement/lecture | |
|---|---|---|---|
| | | VN (vitesse normale) | LD (longue durée) |
| VHS | E-30 | 30 minutes | 1 heure |
| | E-60 | 1 heure | 2 heures |
| | E-90 | 1 heure, 30 minutes | 3 heures |
| | E-120 | 2 heures | 4 heures |
| | E-180 | 3 heures | 6 heures |
| | E-240 | 4 heures | 8 heures |
| S-VHS | SE-180 | 3 heures | 6 heures |
| | SE-60 | 1 heure | 2 heures |
| | SE-30 | 30 minutes | 1 heure |

### Prévention d'effacement accidentel

Pour éviter un enregistrement accidentel sur une cassette enregistrée, retirer la languette d'enregistrement. (La cassette est alors dite "protégée"). Pour enregistrer dessus plus tard, couvrir le trou avec de la bande adhésive.


Languette d'enregistrement

# MODE Affichage des modes — leurs significations

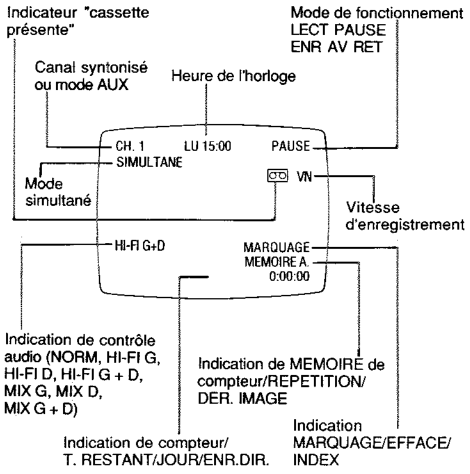
### Panneau d'affichage des messages

| AFFICHAGE | MODE | AFFICHAGE | MODE |
|---|---|---|---|
| LECTURE | Lecture | PAUSE (avec numéro de canal) | Pause d'enregistrement |
| PAUSE | Arrêt sur image | RECH AV. | Recherche accélérée avant |
| AVANCE RAP | Avance rapide | RECH AR. | Recherche accélérée arrière |
| RETOUR RAP | Retour rapide | RALENTI AV | Ralenti avant |
| ENR VN (avec numéro de canal) | Enregistrement en mode VN (ou en mode LD) | RALENTI AR | Ralenti arrière |
| ENR AUTO | Enregistrement par minuterie | EJECTION | Ejection de la cassette |

**Pour une liste plus complète, ☞ p.35.**

### Affichage sur écran

La fonction affichage sur écran peut être annulée si elle n'est pas nécessaire, ou la langue peut être changée si nécessaire. ☞p.34.


Indicateur "cassette présente"
Mode de fonctionnement LECT PAUSE ENR AV RET
Canal syntonisé ou mode AUX
Heure de l'horloge
CH. 1
LU 15:00
PAUSE
SIMULTANE
VN
Mode simultané
Vitesse d'enregistrement
HI-FI G+D
MARQUAGE
MEMOIRE A
0:00:00
Indication de contrôle audio (NORM, HI-FI G, HI-FI D, HI-FI G + D, MIX G, MIX D, MIX G + D)
Indication de MEMOIRE de compteur/REPETITION/ DER. IMAGE
Indication de compteur/ T. RESTANT/JOUR/ENR.DIR.
Indication MARQUAGE/EFFACE/ INDEX

### INDICATION AUTOMATIQUE

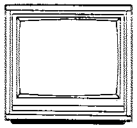
- **Chaîne, mode de fonctionnement, mode audio, mode simultané et marque "Cassette présente"**
  Quand l'état est changé, l'indication correspondante est affichée sur l'écran pendant 5 secondes. Toutefois, l'indication du mode de pause est affichée aussi longtemps que le mode de pause est engagé.
- **Heure et date**
  Quand le réglage de l'heure est terminé, la date et l'heure sont affichées pendant 5 secondes.

### RAPPEL MANUEL

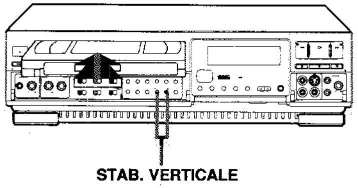
1. Appuyer sur A.S.E. (affichage sur écran).
   - Toutes les indications correspondant à l'état courant sont affichées pendant 5 secondes, laissant l'information de compteur (compteur, T. RESTANT ou JOUR) sur l'écran.
   - Pour vérifier seulement l'information de compteur, appuyer sur AFFICH.
2. Appuyer sur A.S.E. pour effacer l'affichage du compteur.

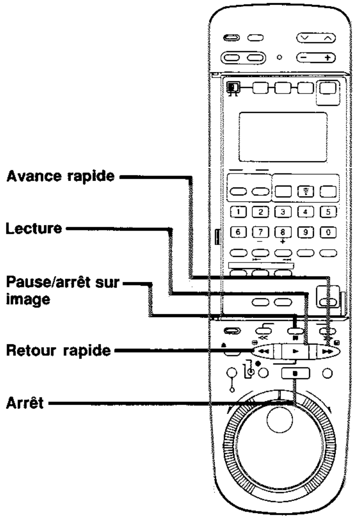
# Lecture

Le fonctionnement le plus élémentaire, le plus facile possible avec votre magnétoscope est la lecture d'une bande. Les signaux déjà enregistrés sur une bande vidéo sont lus par votre magnétoscope et affichés sur votre téléviseur comme un programme TV.



SELECTIONNER LE CANAL UHF 36 (OU MODE AV)



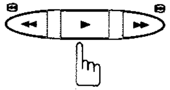


## A CHARGEMENT D'UNE CASSETTE

1 Introduire une cassette.
- Si la languette d'enregistrement sur la cassette a été retirée, la lecture commencera automatiquement.

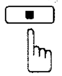
## B POUR COMMENCER LA LECTURE

2



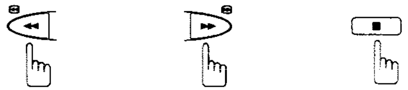
## C POUR ARRETER LA LECTURE

3



## D POUR REEMBOBINER OU AVANCER RAPIDEMENT

| Pour réembobiner la bande. | Pour faire défiler rapidement la bande en avant. | Pour arrêter le réembobinage ou l'avance rapide. |
|---|---|---|



## Recherche avant et arrière accélérée

**Pendant la lecture:**

1 Appuyer sur ▶▶ pour la recherche avant accélérée.
2 Appuyer sur ◀◀ pour la recherche arrière accélérée.
3 Appuyer sur ▶ pour reprendre la lecture normale.
- Pour des recherches courtes, maintenir pressé ▶▶ ou ◀◀ pendant plus de 2 secondes. En relâchant, la lecture normale continuera.

## Arrêt sur image et avance d'image/image

**Pendant la lecture:**

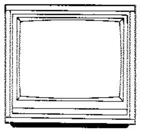
1 Appuyer sur ❚❚ pour visionner une image fixe.
2 Appuyer à nouveau pour faire avancer l'image image par image.
3 Appuyer sur ▶ pour reprendre la lecture normale.

## REMARQUES:

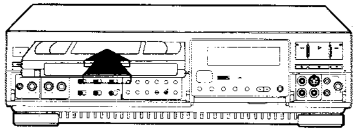
- Le magnétoscope s'arrête automatiquement si l'arrêt sur image dure plus de 5 minutes.
- Les bandes avec piste son monophonique (audio normal) sont lues automatiquement dans le mode NORM. Pour lire des bandes avec pistes son Hi-Fi stéréo, bilingues ou avec montage audio, ☞ p.21.
- Si l'image fixe est instable, utiliser les touches STAB. VERTICALE du magnétoscope pour corriger l'image.
- Il n'y a pas de son pendant la recherche, l'arrêt sur image et l'avance image par image.

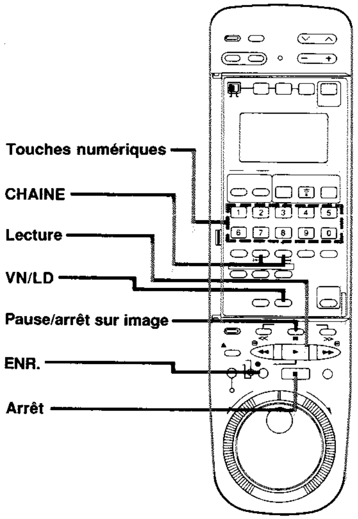
# Enregistrement

Les signaux TV reçus par le syntoniseur incorporé du magnétoscope peuvent être enregistrés sur une bande vidéo. C'est l'enregistrement vidéo en temps réel.



SELECTIONNER LE CANAL UHF 36 (OU MODE AV)





## REMARQUES:

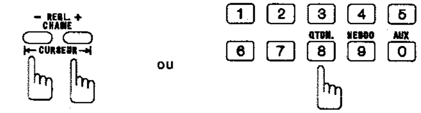
- Si vous voulez enregistrer dans le mode VHS en utilisant une cassette S-VHS, appuyer sur la touche S-VHS du magnétoscope pour éteindre l'indicateur S-VHS sur le panneau avant.
- Les bandes d'émissions SECAM enregistrées dans le mode VHS LD ne peuvent pas être lues sur une autre machine SECAM LD. Pour plus d'informations sur la compatibilité multi-système, ☞ p.42.
- Le magnétoscope s'arrête automatiquement si la pause d'enregistrement dure plus de 5 minutes.
- Quand un programme VPS est diffusé sur le canal sélectionné, "VPS" apparaît sur le panneau d'affichage. ☞ p.30 pour des informations sur le VPS.

## A CHARGEMENT D'UNE CASSETTE

1 Introduire une cassette non protégée.
- L'alimentation du magnétoscope sera mise automatiquement. Bien s'assurer que l'indicateur VIDEO est allumé; sinon, appuyer sur TV/VIDEO pour qu'il s'allume.

## B CHOISIR UN PROGRAMME

2 Appuyer sur CHAINE ou sur les touches numériques.

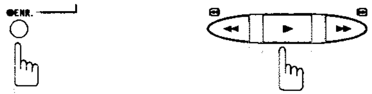


## C SELECTION DE LA VITESSE D'ENREGISTREMENT

3 Appuyer sur VN/LD.

## D POUR LANCER L'ENREGISTREMENT

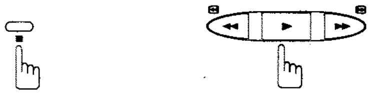
4 Appuyer simultanément sur ENR. (enregistrement) et ▶ (lecture).



## E POUR FAIRE UNE PAUSE D'ENREGISTREMENT

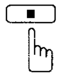
5

6 Pour reprendre l'enregistrement.



## F POUR ARRETER L'ENREGISTREMENT

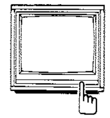
7



## Pour regarder un autre programme tout en enregistrant

**Pendant l'enregistrement:**

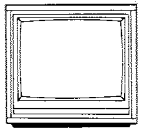
Appuyer sur TV/VIDEO. L'indicateur VIDEO s'éteindra et l'émission TV en cours d'enregistrement disparaîtra.



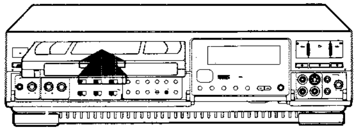
Sélectionner le canal de TV.

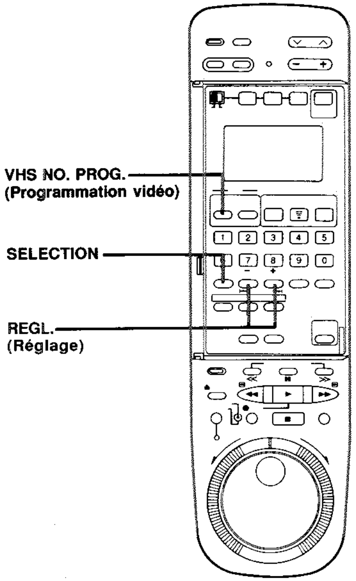
# Enregistrement par minuterie

Les méthodes de programmation de la minuterie LCD et sur écran sont introduites ici. Si vous préférez utiliser les commandes et le panneau d'affichage des messages du magnétoscope, ☞ p.27. LA PROGRAMMATION DE LA MINUTERIE N'EST PAS POSSIBLE TANT QUE L'HORLOGE N'A PAS ETE REGLEE.



**METTRE L'ALIMENTATION;**
SELECTIONNER LE CANAL
UHF 36 (OU MODE AV)




VHS NO. PROG.
(Programmation vidéo)
SELECTION
REGL.
(Réglage)

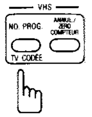
## Programmation de la minuterie sur écran

### A CHARGEMENT D'UNE CASSETTE

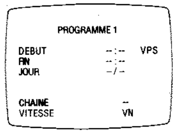
1 Introduire une cassette non protégée.
- L'alimentation du magnétoscope sera mise automatiquement.

### B ACCES A L'AFFICHAGE DE LA PROGRAMMATION SUR ECRAN

2 Appuyer sur VHS NO. PROG.


VHS
NO. PROG.
ANNUL./ ZERO COMPTEUR
TV CODEE

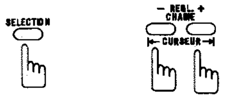
- Vous êtes prêts pour entrer les données dans le programme No. 1.
- Pour changer de numéro de programme, appuyer sur REGL.

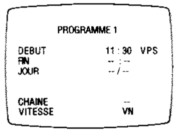


```
PROGRAMME 1

DEBUT     --:--   VPS
FIN       --:--
JOUR      --/--

CHAINE      --
VITESSE     VN
```

### C ENTRER L'HEURE DE DEBUT

3 Pour les heures.
4 Pour les minutes.

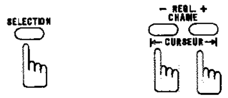

SELECTION
- REGL. +
CHAINE
|← CURSEUR →|

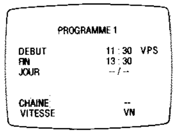


```
PROGRAMME 1

DEBUT     11:30   VPS
FIN       --:--
JOUR      --/--

CHAINE      --
VITESSE     VN
```

### D ENTRER L'HEURE DE FIN

5
6

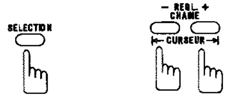

SELECTION
- REGL. +
CHAINE
|← CURSEUR →|

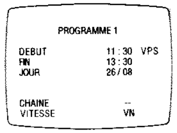


```
PROGRAMME 1

DEBUT     11:30   VPS
FIN       13:30
JOUR      --/--

CHAINE      --
VITESSE     VN
```

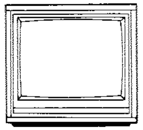
### E ENTRER LA DATE

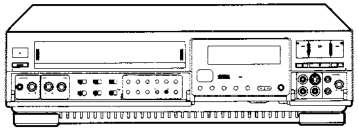
7 Pour le jour.
8 Pour le mois.

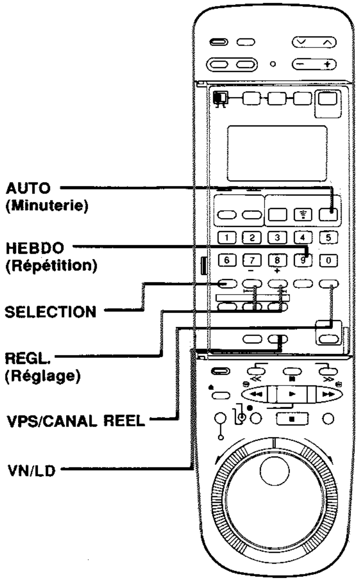

SELECTION
- REGL. +
CHAINE
|← CURSEUR →|



```
PROGRAMME 1

DEBUT     11:30   VPS
FIN       13:30
JOUR      26/08

CHAINE      --
VITESSE     VN
```





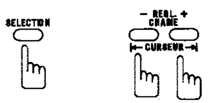

AUTO
(Minuterie)
HEBDO
(Répétition)
SELECTION
REGL.
(Réglage)
VPS/CANAL REEL
VN/LD

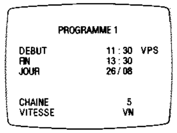
### REMARQUE:

- Normalement, vous pouvez laisser "VPS" pour pouvoir profiter des avantages des enregistrements VPS. Vous pouvez annuler VPS en appuyant sur la touche VPS/CANAL REEL quand le programme de la mémoire est ouvert. Si vous avez des questions concernant le VPS, ☞ p.30.

### F ENTRER LE NUMERO DE CHAINE

9


SELECTION
- REGL. +
CHAINE
|← CURSEUR →|

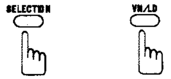


```
PROGRAMME 1

DEBUT     11:30   VPS
FIN       13:30
JOUR      26/08

CHAINE      5
VITESSE     VN
```

- La couleur de l'écran passe au vert.

### G SELECTION DE LA VITESSE D'ENREGISTREMENT

10


SELECTION
VN/LD

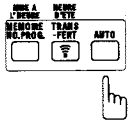
### H FIN D'UN PROGRAMME

11

- Le numéro de programme clignotera.
- Si vous avez besoin de régler un autre programme, appuyer sur REGL. et reprendre les étapes 3 à 11.

### I REGLAGE EN MODE DE MINUTERIE

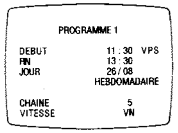
12


MODE A L'HEURE
HEURE D'ETE
MEMOIRE NO.PROG.
TRANS -FERT
AUTO

Appuyer sur AUTO.
- Le magnétoscope passera en mode de minuterie et l'alimentation sera coupée.
- Appuyer à nouveau sur AUTO pour relâcher le mode de minuterie.

### Options dans l'étape E (programmation hebdomadaire)

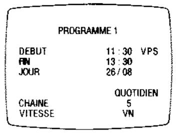
Cette fonction vous permet de régler le magnétoscope pour l'enregistrement par minuterie à la même heure, le même jour de chaque semaine. L'utiliser pour enregistrer des séries hebdomadaires.
- Appuyer d'abord sur HEBDO (la touche numérique "9") et puis entrer la date.



```
PROGRAMME 1

DEBUT     11:30   VPS
FIN       13:30
JOUR      26/08
       HEBDOMADAIRE

CHAINE      5
VITESSE     VN
```

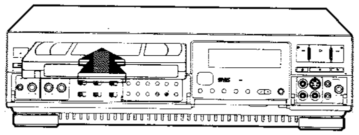
### Options dans l'étape E (programmation quotidienne)

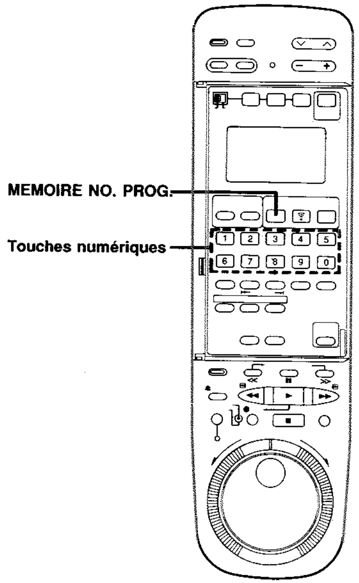
Cette fonction vous permet de régler le magnétoscope pour l'enregistrement par minuterie à la même heure tous les jours. L'utiliser pour enregistrer des séries quotidiennes.
- Pour enregistrer une série quotidienne commençant le jour du réglage, appuyer deux fois sur HEBDO (la touche numérique "9") et puis appuyer sur SELECTION.
- Pour enregistrer une série quotidienne commençant un autre jour, appuyer deux fois sur HEBDO et puis entrer la date.



```
PROGRAMME 1

DEBUT     11:30   VPS
FIN       13:30
JOUR      26/08

          QUOTIDIEN
CHAINE      5
VITESSE     VN
```

# Enregistrement par minuterie (suite)




MEMOIRE NO. PROG.
Touches numériques

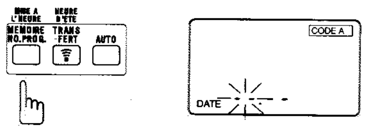
## Programmation de la minuterie LCD

### A CHARGEMENT D'UNE CASSETTE

1 Introduire une cassette non protégée.
- L'alimentation du magnétoscope sera mise automatiquement.

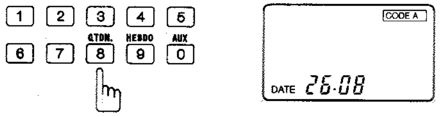
### B ENTREE DANS LA PROGRAMMATION DE LA MINUTERIE LCD

2 Appuyer sur MEMOIRE NO. PROG.


MISE A L'HEURE
HEURE D'ETE
MEMOIRE NO.PROG.
TRANS -FERT
AUTO
CODE A
DATE

### C ENTRER LA DATE

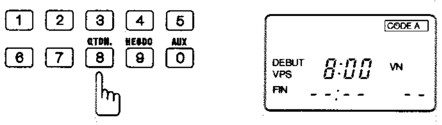
3 Appuyer sur les touches numériques appropriées.


1 2 3 4 5
QTDN. HEBDO AUX
6 7 8 9 0
CODE A
DATE 26·08

- Toujours entrer "0" devant une entrée à un seul chiffre.

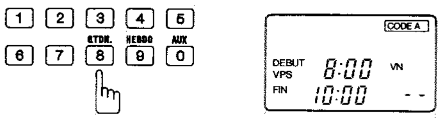
### D ENTRER L'HEURE DE DEBUT

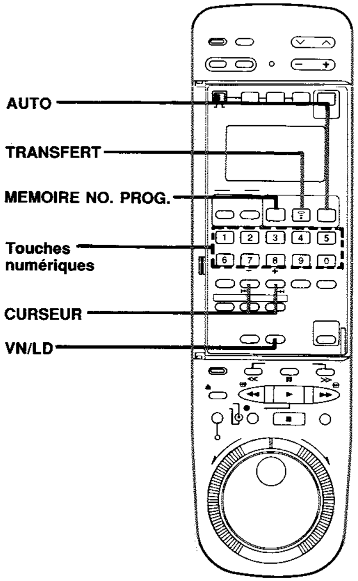
4


1 2 3 4 5
QTDN. HEBDO AUX
6 7 8 9 0
CODE A
DEBUT VPS FIN
8:00
VN

### E ENTRER L'HEURE DE FIN

5

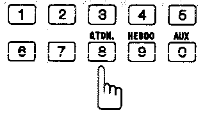

1 2 3 4 5
QTDN. HEBDO AUX
6 7 8 9 0
CODE A
DEBUT VPS FIN
8:00
10:00
VN

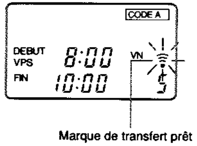

AUTO
TRANSFERT
MEMOIRE NO. PROG.
Touches numériques
CURSEUR
VN/LD

**REMARQUE:**
- Normalement, vous pouvez laisser "VPS" pour pouvoir profiter des avantages des enregistrements VPS. Vous pouvez annuler VPS en appuyant sur la touche VPS quand le programme de la mémoire est ouvert. Si vous avez des questions concernant le VPS, ☞ p.30.

### F ENTRER LE NUMERO DE CANAL

6

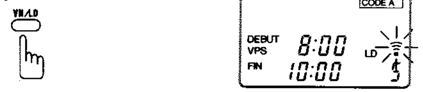

1 2 3 4 5
QTDN. HEBDO AUX
6 7 8 9 0


CODE A
DEBUT VPS FIN
8:00
10:00
VN
Marque de transfert prêt

- Pour le numéro de canal ne jamais entrer "0" devant une entrée à un seul chiffre.

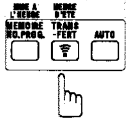
### G SELECTION DE LA VITESSE D'ENREGISTREMENT

7 Appuyer sur VN/LD.


VN/LD
CODE A
DEBUT VPS FIN
8:00
10:00
LD

### H TRANSFERT DES DONNEES VERS LE MAGNETOSCOPE

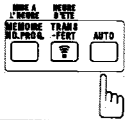
8 Appuyer sur TRANSFERT avec la télécommande dirigée vers la fenêtre de détection de télécommande du magnétoscope.


MISE A L'HEURE
HEURE D'ETE
MEMOIRE NO.PROG.
TRANS -FERT
AUTO

- Vous verrez "PROG 1" sur le panneau d'affichage.

### I REGLAGE EN MODE DE MINUTERIE

9 Appuyer sur AUTO.


MISE A L'HEURE
HEURE D'ETE
MEMOIRE NO.PROG.
TRANS -FERT
AUTO

- L'alimentation sera coupée.
- Appuyer à nouveau sur AUTO si vous souhaitez relâcher le mode de minuterie.
- Une pression sur MEMOIRE NO. PROG. fait revenir l'affichage LCD en mode d'horloge.

### Options dans l'étape C (programmation hebdomadaire)

- Appuyer d'abord sur la touche numérique "9" (HEBDO) et puis entrer la date.

### Options dans l'étape C (programmation quotidienne)

- Pour enregistrer une série quotidienne commençant le jour du réglage, appuyer sur la touche numérique "8" (QTDN) et puis appuyer sur CURSEUR → jusqu'à ce que l'affichage passe en mode d'entrée de l'heure.
- **Pour enregistrer une série quotidienne commençant un autre jour, appuyer sur la touche numérique "8" (QTDN) et puis entrer la date.**

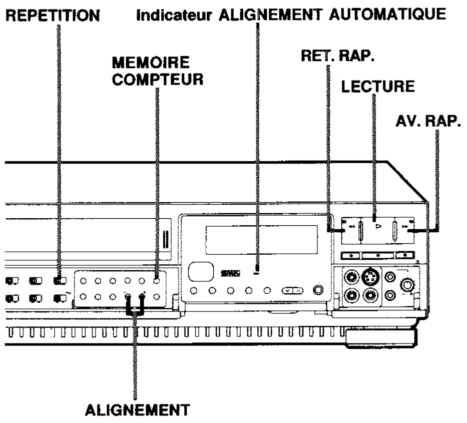
**POUR FAIRE DES CORRECTIONS**

- Appuyer sur une touche CURSEUR pour que la partie que vous voulez changer clignote, puis entrer la nouvelle valeur.

**Pour d'autres méthodes de programmation de la minuterie, ☞ p.27. Des questions ? ☞ p.29.**

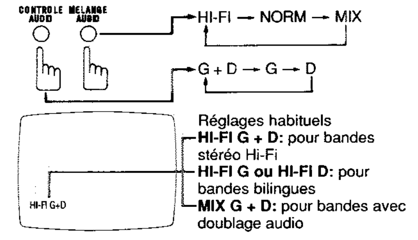
# Pour la lecture

Profitez des fonctions spéciales possibles avec les commandes du magnétoscope ou de la télécommande.



## Sélection de la piste son
**(Magnétoscope et télécommande)**

Votre magnétoscope peut enregistrer simultanément trois pistes son (HI-FI G, HI-FI D et NORMAL), et lire la piste sélectionnée.



Réglages habituels
- **HI-FI G + D:** pour bandes stéréo Hi-Fi
- **HI-FI G ou HI-FI D:** pour bandes bilingues
- **MIX G + D:** pour bandes avec doublage audio

### REMARQUE:
- Utiliser normalement la position HI-FI G + D. Puis les bandes Hi-Fi stéréo sont lues en stéréo, et les bandes avec audio normal seulement sont lues automatiquement dans le mode NORM.
- CONTROLE AUDIO est également prévu sur la télécommande.

## Lecture répétée (Magnétoscope)

Votre magnétoscope peut lire automatiquement toute la bande ou une partie de celle-ci définie par des indexations, de façon répétée et ce, jusqu'à 5 fois.

1. Placer le commutateur REPETITION sur COMP. ou INDEX.
2. Pour la répétition indexée, localiser le code d'indexation où vous voulez lancer la lecture. (Recherche indexée, ☞ p.26.)
3. Appuyer sur LECTURE. La lecture répétée commence. Après 5 répétitions consécutives, la lecture s'arrête.
   - Bien remettre le commutateur REPETITION sur A. avant de presser à nouveau la touche LECTURE; sinon la lecture répétée reprend automatiquement.

## Alignement manuel (Magnétoscope)

Votre magnétoscope dispose d'une commande d'alignement automatique, l'indicateur ALIGNEMENT AUTOMATIQUE est allumé ou clignote quand celui-ci est effectué. Si vous voulez ajuster manuellement l'alignement pendant la lecture:

1. Appuyer simultanément sur ALIGNEMENT (+ et –) pour commander cette fonction manuellement.
   - L'indicateur ALIGNEMENT AUTOMATIQUE s'éteindra.
2. Appuyer sur ALIGNEMENT (– ou +) pour ajuster l'alignement si nécessaire.
3. Appuyer simultanément sur ALIGNEMENT (+ et –) pour revenir en alignement automatique.
   Pour ajuster l'alignement pendant la lecture au ralenti, appuyer simplement sur ALIGNEMENT (– ou +) pour obtenir la meilleure image possible.

## Lecture mémorisée (Magnétoscope et télécommande)

Pour lancer automatiquement la lecture après le réembobinage de la bande:
1. Appuyer sur RET. RAP.
2. Appuyer sur LECTURE dans les 2 secondes qui suivent.

Pour couper automatiquement l'alimentation après le réembobinage de la bande:
1. Appuyer sur RET. RAP.
2. Appuyer sur MARCHE dans les 2 secondes qui suivent.

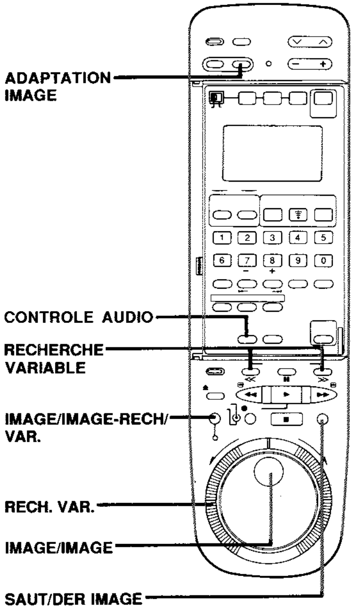
## Lecture mémorisée (Magnétoscope)

Pour lancer automatiquement la lecture à partir du "0:00:00" du compteur:
1. Appuyer sur MEMOIRE COMPTEUR.
2. Appuyer sur RET. RAP. (ou AV. RAP.).
3. Appuyer sur LECTURE dans les 2 secondes qui suivent.

## Ejection mémorisée (Télécommande)

Pour l'éjection automatique de la bande après le réembobinage:
1. Appuyer sur ◄◄ (retour rapide)
2. Appuyer sur EJECT. dans les 2 secondes qui suivent.

### REMARQUE:
- Quand une nouvelle cassette est introduite, le magnétoscope passe automatiquement en mode d'alignement automatique.



### REMARQUES:
- Si des barres parasites apparaissent au ralenti, corriger en utilisant l'alignement manuel ☞ p.21.
- Pendant la recherche à vitesse variable, des barres parasites apparaîtront.
- En lisant des enregistrements LD en mode de lecture d'effets spéciaux, l'image sera distordue, et il peut y avoir une perte e couleur.

## Recherche de saut (Télécommande)

Votre magnétoscope offre une façon simple de sauter des parties non voulues de programmes TV enregistrés.

**Pendant la lecture:**
1. Appuyer sur SAUT/DER. IMAGE entre 1 et 4 fois.
   Ceci permet de sauter en accéléré 30 s à 2 mn de bande.
   - La lecture reprend automatiquement.
   - Appuyer sur ► (lecture) pour annuler une recherche de saut en cours.

## Recherche à vitesse variable, ralenti et défilement
**(Télécommande)**

Vous pouvez visionner des images du ralenti à l'accéléré, ou image par image, dans un sens ou l'autre.

Pendant la lecture ou l'arrêt sur image:
1. Appuyer sur IMAGE/IMAGE-RECH.VAR.
   - L'indicateur LED s'allumera.
2. Tourner la bague externe (RECH. VAR.) dans un sens ou l'autre. Plus la bague est tournée, plus la vitesse de recherche est grande. Relâcher la bague arrête l'image dans le mode d'arrêt sur image.

**ou**
1. Appuyer sur une touche RECHERCHE VARIABLE. La bande défilera dans le sens correspondant.
   - Plus la touche est pressée de fois, plus la vitesse de recherche est grande.
   - Pour réduire la vitesse, appuyer sur la touche pour le sens inverse.

**Pendant l'arrêt sur image:**
1. S'assurer que l'indicateur LED est allumé.
   - Si ce n'est pas le cas, appuyer sur IMAGE/IMAGE-RECH.VAR.
2. Tourner la molette interne (IMAGE/IMAGE) dans un sens ou l'autre pour la commande de défilement. La bande défile en avant ou en arrière image par image à la vitesse à laquelle la molette est tournée.

**Pour revenir en lecture normale, appuyer sur la touche LECTURE.**

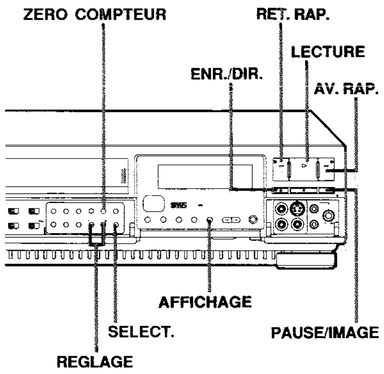
## Commande d'image

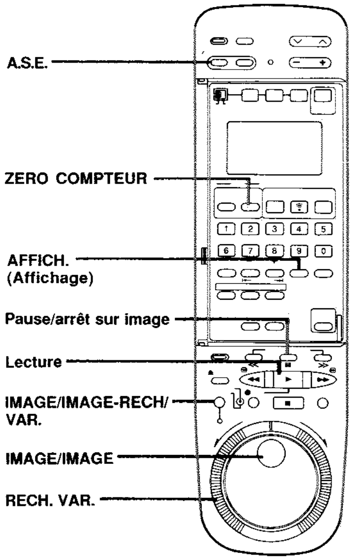
Votre magnétoscope a un processeur vidéo incorporé qui vous permet de choisir le type d'image de lecture qui correspond le mieux à l'application donnée.

**Pendant la lecture:**
1. Appuyer sur ADAPTATION IMAGE le nombre de fois nécessaire pour atteindre le réglage voulu.
   - Le panneau d'affichage montre le réglage pendant 5 secondes.

| Panneau d'affichage | Cas d'utilisation |
|---|---|
| LOCATION | En visionnant des bandes avec des parasites causés par la lecture répétée, telles les cassettes en location. |
| COPIE | En faisant du montage vers un autre magnétoscope. |
| NETTETE – | Quand vous voulez une image douce. |
| NETTETE + | Quand vous voulez une image nette. |
| NORMAL | Quand aucune modification est nécessaire. |

# Pour l'enregistrement





## REMARQUES:

- Durant la retouche, des parasites peuvent se produire dans la partie réembobinée.
- La durée restante n'est pas précise tant que l'affichage clignote. Quand le clignotement s'arrête, la durée restante est montrée.

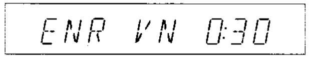
## Enregistrement immédiat (minuterie d'arrêt)

**(Magnétoscope)**

Vous pouvez commencer un enregistrement, puis programmer l'arrêt de votre magnétoscope par tranches de 30 minutes.

**Pendant l'enregistrement:**

1 Appuyer sur ENR./DIR. (sur le magnétoscope). Une indication "ENR NV 0:30" ou "ENR LD 0:30" apparaît, vous informant que l'alimentation sera coupée au bout de 30 minutes.



2 Appuyer encore sur ENR./DIR. pour retarder l'heure de la coupure par tranches de 30 minutes (jusqu'à 4 heures).
- Pour un réglage plus précis, utiliser les touches SELECT./REGLAGE (possible jusqu'à 8 heures et 59 minutes).

## Retouche (Magnétoscope et télécommande)

Vous pouvez retoucher les dernières séquences d'un programme TV ou de votre montage pendant son enregistrement.

**Pendant l'enregistrement:**

1 Appuyer sur PAUSE/IMAGE.

2 Appuyer sur IMAGE/IMAGE-RECH. VAR.
- L'indicateur LED s'allumera.

3 Tourner la molette interne (IMAGE/IMAGE)/la bague externe (RECH. VAR.) dans un sens ou l'autre.
- Relâcher pour revenir en mode de pause d'enregistrement.

4 Appuyer sur LECTURE quand vous voulez reprendre l'enregistrement.

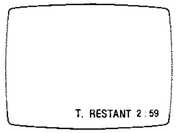
## Indication de durée de bande restante

**(Magnétoscope et télécommande)**

Pour connaître la durée de bande restante.

1 Appuyer sur AFFICH. jusqu'à l'apparition de "T. RESTANT" sur l'écran.
- La durée approximative de bande restante est affichée.

2 Pour effacer l'écran, appuyer sur A.S.E.
- Le panneau d'affichage montre également la durée de bande restante, mais revient, pendant l'enregistrement, à l'affichage du mode d'enregistrement au bout de 5 secondes.



## Indication de durée d'enregistrement écoulée

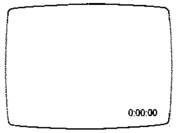
**(Magnétoscope et télécommande)**

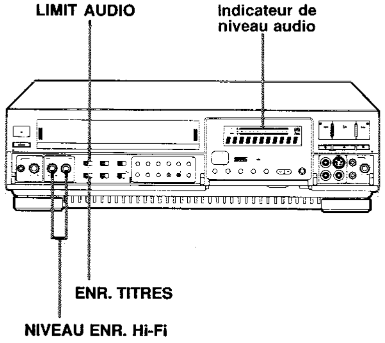
Pour connaître la durée exacte d'un enregistrement.

1 Appuyer sur AFFICH. jusqu'à l'apparition d'une valeur du compteur sur l'écran.

2 Appuyer sur ZERO COMPTEUR et puis lancer l'enregistrement.
- Le compteur sera remis à "0:00:00", et montre la durée écoulée comme la bande défile.
- Le panneau d'affichage montre également la remise à "0:00:00" du compteur, mais est remplacée par l'affichage du mode d'enregistrement.

3 Pour effacer l'écran, appuyer sur A.S.E. Et appuyer sur AFFICH. à tout moment pour vérifier la durée d'enregistrement écoulée.

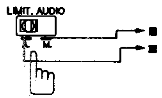




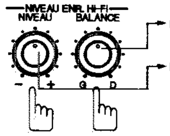
## Commande de niveau d'enregistrement audio Hi-Fi

**(Magnétoscope)**

Vous pouvez ajuster manuellement, si nécessaire, le niveau d'enregistrement audio Hi-Fi en se référant à l'indicateur de niveau audio au-dessus de l'affichage des messages.



- Régler normalement sur "M".
- Pour la commande manuelle du niveau, le placer sur "A."



- Tourner pour ajuster la balance entre les canaux gauche et droit.
- Tourner pour ajuster le niveau. Quand l'indicateur s'allume jusqu'à ou près de 0 dB avec le signal le plus fort appliqué, le niveau d'enregistrement est optimal.

## REMARQUE:

- S'assurer que la position "HI-FI G + D" est sélectionnée avec les touches MELANGE AUDIO et CONTROLE AUDIO. ☞ p.21.

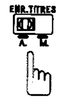
## Enregistrement de programmes sous-titrés

**(Magnétoscope)**

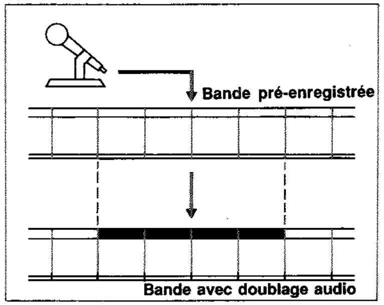
Si la station TV codée où vous êtes abonné offre des services de sous-titrage et télétextes, vous pouvez enregistrer ces programmes, et les visionner sur un téléviseur ordinaire (sans compatibilité RVB).

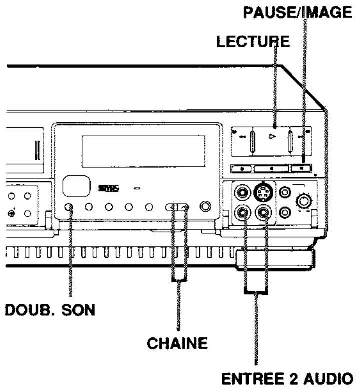
1 Régler le commutateur MARCHE/ARRET des sous-titres du décodeur sur marche.

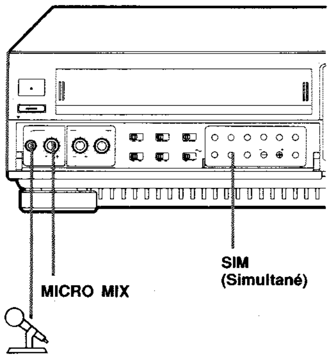
2 Régler le commutateur ENR. TITRES du magnétoscope sur "M."



# Pour l'enregistrement (suite)







## Doublage audio

Le doublage audio signifie remplacer le son audio normal d'une bande préenregistrée avec une nouvelle piste son. Apporter une touche de personnalité à vos bandes en enregistrant des commentaires, etc.

**PREPARATIFS**

1. Raccorder un microphone à la prise MICRO.
2. Sélectionner le mode ENTREE AUX. (touche "0" ou CHAINE)

**PROCEDURE**

1. Ajuster le niveau d'entrée avec la commande MICRO MIX tout en contrôlant au casque.
2. Lancer la lecture et engager le mode d'arrêt sur image au point à partir duquel vous voulez commencer le doublage audio.
3. Appuyer sur la touche DOUB. SON.
4. Appuyer sur la touche LECTURE.
   - Le doublage audio commencera.
5. Appuyer sur la touche PAUSE/IMAGE pour arrêter temporairement le doublage audio.

### REMARQUES:

- Le doublage audio s'arrêtera automatiquement au passage par "0:00:00" du compteur, et le magnétoscope passera en mode de lecture. Vérifier le compteur avant de lancer le doublage audio.
- Si vous voulez utiliser des sources audio autres que l'entrée microphone, raccorder l'appareil audio aux connecteurs ENTREE 2 du panneau avant. (Pour du matériel monophonique, utiliser le connecteur G.) Dans ce cas, bien sélectionner le mode ENTREE S avec la touche PERI/S. Si le microphone et l'autre source audio sont raccordés, l'enregistrement mixé est possible.
- La prise PERITELEVISION et les connecteurs ENTREE AUDIO du panneau arrière peuvent également être utilisés pour le doublage audio. Sélectionner le mode ENTREE AUX pour enregistrer via PERITELEVISION, et le mode ENTREE S pour enregistrer via ENTREE AUDIO.
- Si une autre source est raccordée à ENTREE 2.du panneau avant, elle a priorité sur ENTREE AUDIO du panneau arrière.

## Enregistrement simultané

Votre magnétoscope vous permet d'enregistrer un programme audio tout en enregistrant un programme TV. Dans le mode simultané, la piste son TV est enregistrée sur la piste audio normal et le programme audio externe est enregistré sur la piste audio Hi-Fi, ainsi vous pouvez avoir deux programmes indépendants. Si des programmes TV diffusés simultanément en FM sont disponibles, enregistrez simultanément le programme TV et sa piste son diffusée en FM.

**PREPARATIFS**

1. Raccorder un syntoniseur FM aux connecteurs ENTREE AUDIO du panneau arrière ou ENTREE 2 AUDIO du panneau avant.
2. Régler le syntoniseur FM sur l'émission voulue.

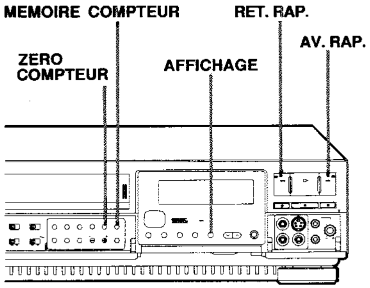
**PROCEDURE**

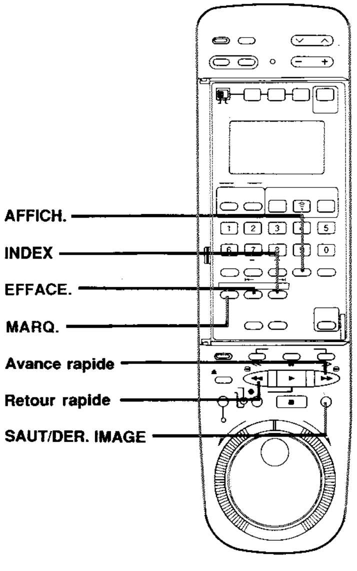
1. Sélectionner le programme TV que vous voulez enregistrer.
2. Appuyer sur la touche SIM.
3. Lancer l'enregistrement.

### REMARQUES:

- Pour enregistrer via ENTREE AUDIO du panneau arrière, ne rien laisser branché sur ENTREE 2 du panneau avant.
- Si vous arrêtez l'enregistrement avec la touche PAUSE/IMAGE pour éviter des séquences non voulues du programme TV, le programme audio sera également coupé.
- Après avoir terminé l'enregistrement simultané, bien appuyer sur la touche SIM pour annuler le mode simultané, sinon il n'est pas possible d'enregistrer sur la piste Hi-Fi à partir du syntoniseur incorporé.

# ◀◀ ▶▶ Pour l'accès sur bande





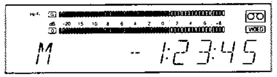
### REMARQUES:

- Les codes d'indexation ne peuvent être marqués ou effacés si la languette d'enregistrement de la cassette a été retirée. ☞ p.13.
- Appuyer sur ▶ (lecture) ou ■ (arrêt) pour annuler la recherche indexée ou la recherche de blanc.
- Si la fin de la bande est atteinte pendant la recherche indexée ou la recherche de blanc, le mode est annulée et la bande se réembobine automatiquement.
- Quand une bande complètement enregistrée est utilisée pour ré-enregistrer un nouveau programme, la recherche de blanc peut être utilisée pour détecter la fin de ce dernier.

## Mémoire de compteur (Magnétoscope)

**Pendant la lecture ou l'arrêt:**

1. Appuyer sur ZERO COMPTEUR au point que vous voulez localiser plus tard.
   - Le compteur indiquera "0: 00: 00".
2. Appuyer sur MEMOIRE COMPTEUR.
   - "M" apparaîtra devant les chiffres du compteur.
3. Appuyer sur RET. RAP. (ou AV. RAP.) pour revenir à ce point.
   - La bande sera réembobinée (ou défilera en avant) et s'arrêtera automatiquement à "0: 00: 00".



4. Pour annuler le mode de mémoire de compteur, appuyer sur MEMOIRE COMPTEUR.

## Recherche indexée (Télécommande)

Cette fonction vous donne un accès rapide à tout code d'indexation jusqu'à 9, dans un sens ou l'autre. Votre magnétoscope marque automatiquement des codes d'indexation au début de chaque enregistrement. Vous pouvez également marquer ou effacer manuellement des codes d'indexation:

**Pendant la lecture ou l'arrêt:**

1. Appuyer sur INDEX. "INDEX 1" sera affiché.
   - Si vous voulez avoir accès aux codes d'indexation 2 à 9, appuyer sur INDEX plusieurs fois jusqu'à l'affichage du bon numéro d'index.
2. Appuyer sur ▶▶ (avance rapide) ou ◀◀ (retour rapide). La recherche indexée commencera dans la direction correspondante.

## Marquage/effacement manuel de codes d'indexation (Télécommande)

### MARQUAGE

**Pendant la lecture et l'enregistrement:**

1. Appuyer sur MARQ. Le magnétoscope marquera un code d'indexation à cet endroit.

### EFFACEMENT

**Pendant la lecture ou l'arrêt sur image:**

1. Appuyer sur EFFACE. Le magnétoscope avancera rapide-ment jusqu'au code d'indexation le plus proche et l'effacera.

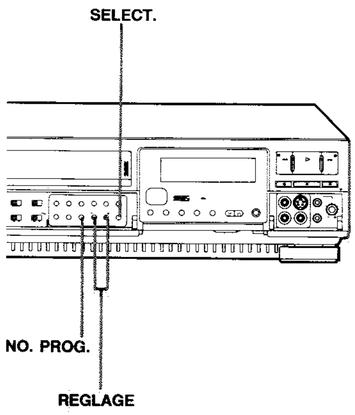
## Recherche de blanc (Télécommande)

Cette fonction vous permet de localiser rapidement la partie vierge d'une bande partiellement enregistrée.

**Pendant l'arrêt:**

1. Appuyer sur SAUT/DER. IMAGE.
   - Le magnétoscope fait défiler rapidement la bande en avant ou en arrière jusqu'à la fin de la partie enregistrée, et s'arrête.
   - La durée restante de la bande est automatiquement affichée. Appuyer sur AFFICH. pour revenir à l'affichage du compteur en temps réel.

# Pour l'enregistrement par minuterie



## Ce qu'il faut savoir

L'enregistrement par minuterie est une des fonctions les plus utiles de votre magnétoscope. Ce chapitre décrit la méthode de programmation de la minuterie directement par les commandes du magnétoscope, et comment l'affichage des messages peut vous y aider.

## Programmation directe de la minuterie

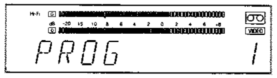
La minuterie incorporée programmable sur 1 an/8 programmes peut être réglée directement sur le magnétoscope, en se référant au panneau d'affichage des messages. S'assurer que le panneau d'affichage indique l'heure exacte.

### A MISE EN MARCHE DU MAGNETOSCOPE

1 Introduire une cassette non protégée.
- L'alimentation du magnétoscope sera mise automatiquement.

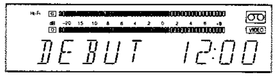
### B ENTREE DANS LA PROGRAMMATION DE LA MINUTERIE

2 Appuyer sur NO. PROG.
- Vous êtes prêt pour entrer les données dans le programme No. 1.
- Pour changer le numéro de programme, appuyer sur REGLAGE.



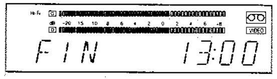
### C ENTRER L'HEURE DE DEBUT

3 Appuyer sur SELECT., puis sur REGLAGE pour entrer les heures.
4 Appuyer sur SELECT., puis sur REGLAGE pour entrer les minutes.



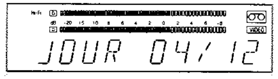
### D ENTRER L'HEURE DE FIN

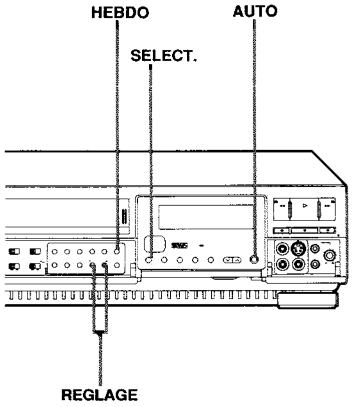
5 Appuyer sur SELECT., puis sur REGLAGE pour entrer les heures.
6 Appuyer sur SELECT., puis sur REGLAGE pour entrer les minutes.



### E ENTRER LA DATE

7 Appuyer sur SELECT., puis sur REGLAGE pour entrer le jour.
8 Appuyer sur SELECT., puis sur REGLAGE pour entrer le mois.

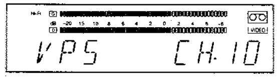




**REMARQUE:**
- Normalement, vous pouvez laisser "VPS" pour pouvoir profiter des avantages des enregistrements VPS. Vous pouvez annuler VPS en appuyant sur la touche VPS quand le programme de la mémoire est ouvert. Si vous avez des questions concernant le VPS, ☞ p.30.

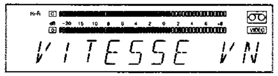
### F ENTRER LE NUMERO DE CANAL

9 Appuyer sur SELECT., puis sur REGLAGE pour entrer le canal.



### G SELECTION DE LA VITESSE D'ENREGISTREMENT

10 Appuyer sur SELECT., puis sur VN/LD.



### H FIN D'UN PROGRAMME

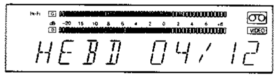
11 Appuyer sur SELECT.
- Le numéro de programme courant apparaîtra en clignotant.
- Pour faire des corrections, avancer avec SELECT. sur la partie que vous voulez changer et entrer une nouvelle valeur avec REGLAGE.
- Si vous avez besoin de régler un autre programme, appuyer sur REGLAGE et reprendre les étapes 3 à 11.

### I REGLAGE EN MODE DE MINUTERIE

12 Appuyer sur AUTO.
- Le magnétoscope passera en mode de minuterie et l'alimentation sera coupée.
- Appuyer à nouveau sur AUTO pour relâcher le mode de minuterie.

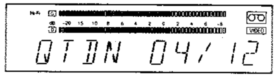
### Options dans l'étape E (programmation hebdomadaire)

Cette fonction vous permet de régler le magnétoscope pour l'enregistrement par minuterie à la même heure, le même jour de chaque semaine. (L'utiliser pour enregistrer des séries hebdomadaires.)
- Appuyer d'abord sur HEBDO et puis entrer la date.



### Options dans l'étape E (programmation quotidienne)

Cette fonction vous permet de régler le magnétoscope pour l'enregistrement par minuterie à la même heure tous les jours. (L'utiliser pour enregistrer des séries quotidiennes.)
- Pour enregistrer une série quotidienne commençant le jour du réglage, appuyer deux fois sur HEBDO et puis appuyer sur SELECTION jusqu'à ce que l'affichage passe en mode de réglage du canal.
- Pour enregistrer une série quotidienne commençant un autre jour, appuyer deux fois sur HEBDO et puis entrer la date.



**REMARQUE:**
La touche HEBDO fait défiler le mode de réglage de la date entre JOUR, QTDN. et HEBD.

# Pour l'enregistrement par minuterie (suite)

## Messages d'erreur

Les messages d'erreur suivants peuvent apparaître sur le panneau d'affichage quand vous appuyez sur la touche AUTO pour engager le mode d'attente de minuterie. Voyons pourquoi, et ce que vous devez faire.

PAS DE K7

- Affiché pendant 5 secondes et le mode d'attente de minuterie est annulé.

**POURQUOI:** Il n'y a pas de cassette dans le magnétoscope.
**QUE FAIRE:** Introduire une cassette. Appuyer sur AUTO à nouveau.

PROTECT K7

- Affiché pendant 5 secondes et le mode d'attente de minuterie est annulé.

**POURQUOI:** La cassette introduite est protégée.
**QUE FAIRE:** Ejecter cette cassette. Introduire une cassette avec sa languette d'enregistrement intacte. Ou couvrir le trou de la languette d'enregistrement avec de la bande adhésive et la remettre. Appuyer à nouveau sur AUTO. ☞p.13.

AUCUN PROG

- Affiché pendant 5 secondes et le mode d'attente de minuterie est annulé.

**POURQUOI:** Il n'y a pas de programme préréglé en mémoire.
**QUE FAIRE:** Vérifier les valeurs programmées et les re-programmer comme nécessaire. Appuyer à nouveau sur AUTO.

## Autres messages

Les messages suivants peuvent également être rencontrés pendant l'enregistrement par minuterie.

AUTO (avec l'heure courante)

**POURQUOI:** Le magnétoscope est en mode d'attente de minuterie. C'est l'affichage normal que vous devez voir quand vous appuyez sur la touche AUTO.

ENR AUTO

**POURQUOI:** Affichage normal pendant que l'enregistrement par minuterie est en cours.

FIN BANDE

**POURQUOI:** Si ceci et "ENR AUTO" sont affichés alternativement, cela signifie que la fin de la bande a été atteinte alors que l'enregistrement par minuterie était en cours. Par conséquent, le programme préréglé peut ne pas avoir été enregistré dans son intégralité.

REGL HORL

**POURQUOI:** Ceci signifie que l'horloge doit être réglée. C'est affiché quand le maintien de l'heure est terminé à cause d'une panne de courant ou parce que la fiche d'alimentation du magnétoscope a été débranchée de la prise secteur.
**QUE FAIRE:** Régler l'horloge. ☞p.10.

- Si l'alimentation a été interrompue, il est également probable que toutes les données programmées de la minuterie ont été effacées. Vérifier et re-programmer si nécessaire.

Les messages suivants peuvent également être rencontrés quand la touche TRANSFERT de la télécommande est pressée. ☞p.20.

PROG (avec un numéro)

- Affiché pendant 5 secondes.

**POURQUOI:** Les données transférées ont été mémorisées sous ce numéro de programme. (Le numéro de programme vacant le plus petit est toujours sélectionné automatiquement.)

ERREUR

- Affiché pendant 5 secondes.

**POURQUOI:** Les données n'ont pas été transférées correctement. Le programme peut avoir été mal préréglé, ou l'horloge du magnétoscope n'a pas été réglée.
**QUE FAIRE:** Vérifier le programme LCD, et re-programmer comme nécessaire. Transférer les données correctes.

COMPLET

- Affiché pendant 5 secondes.

**POURQUOI:** Tous les programmes de la minuterie du magnétoscope (1 à 8) sont préréglés.
**QUE FAIRE:** Annuler des programmes inutiles, et transférer à nouveau.

## Vérification et annulation de programmes

Comme les programmes exécutés sont automatiquement effacés de la mémoire (sauf ceux pour des séries quotidiennes et hebdomadaires), il est rare de saturer celle-ci. Si cela arrive, vérifier les programmes préréglés et en annuler un ou plus pour faire de la place au(x) nouveau(x) programme(s) que vous voulez entrer.

### POUR ANNULER UN PROGRAMME

1. Appuyer sur NO. PROG.
   - Le programme 1 est affiché avec le numéro clignotant.
2. Appuyer sur SELECTION pour revoir le contenu du programme sélectionné.
3. Appuyer sur ANNUL. pour effacer le programme de la mémoire.
   - Vous pouvez appuyer sur ANNUL. à tout moment tant que le programme sélectionné apparaît sur l'affichage.
   - Pour effacer un autre programme, appuyer sur REGLAGE quand un numéro de programme clignotant est affiché.

### REMARQUE:

Annuler des programmes est également possible en utilisant la télécommande et l'affichage sur écran. Appuyer sur VHS NO. PROG. et contrôler les données programmées sur l'écran en utilisant SELECTION et REGL. Quand un programme préréglé que vous voulez annuler apparaît sur l'écran, appuyer sur VHS ANNUL.

## Certains faits sur le fonctionnement de la minuterie

- Si la fin de la bande est atteinte pendant l'enregistrement par minuterie, la cassette est automatiquement éjectée et l'alimentation du magnétoscope est coupée avec "ENR AUTO" et "FIN BANDE" clignotant alternativement sur le panneau d'affichage.
- Quand l'enregistrement par minuterie se termine correctement, l'alimentation du magnétoscope est automatiquement coupée.
- Comme la minuterie lance et arrête l'enregistrement en se basant sur l'heure de l'horloge incorporée, l'heure de l'horloge doit être exacte pour de bons résultats d'enregistrement par minuterie.

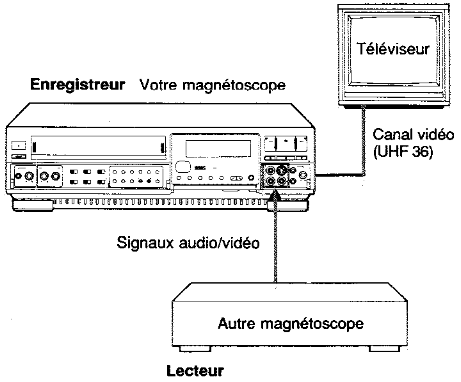
## Enregistrement VPS

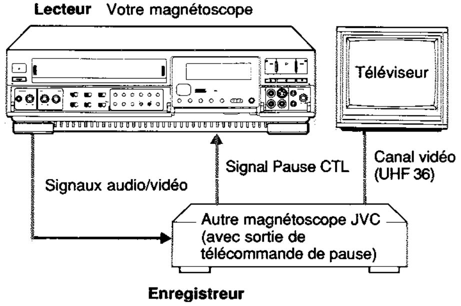
Actuellement disponible de certaines stations TV suisses et allemandes, le VPS (système de programmation vidéo) est un service conçu pour assurer des enregistrements par minuterie sûrs et précis. Avec ce système, des signaux codés spéciaux sont transmis avec les signaux audio/vidéo. Ces signaux codés commandent votre magnétoscope et ont priorité sur les heures que vous avez préréglées dans la minuterie. Ainsi votre magnétoscope lancera et arrêtera l'enregistrement quand les programmes TV préréglés commencent et se terminent réellement — même si l'heure de diffusion d'un programme TV préréglé a changé.

## Pour utiliser le service VPS

- Pour chaque programme de minuterie, le réglage initial est "VPS M." et vous verrez "VPS" sur le panneau d'affichage avec un numéro de canal. Vous n'avez pas à annuler "VPS" même pour des programmes non-VPS, car ces programmes seront enregistrés aux heures préréglées.
- Pour annuler "VPS", appuyer sur la touche VPS. Une pression sur la touche VPS alterne le réglage, et "VPS M." ou "VPS A." est affiché pendant 2 secondes.
- Quand vous ouvrez la mémoire de minuterie LCD, l'affichage LCD montre toujours "VPS" sauf si vous l'annulez en appuyant sur la touche VPS.

# Pour le montage


Enregistreur Votre magnétoscope
Téléviseur
Canal vidéo (UHF 36)
Signaux audio/vidéo
Autre magnétoscope
Lecteur


Lecteur Votre magnétoscope
Téléviseur
Canal vidéo (UHF 36)
Signal Pause CTL
Signaux audio/vidéo
Autre magnétoscope JVC (avec sortie de télécommande de pause)
Enregistreur

## REMARQUES:

- Les raccordements sur le panneau avant ont priorité.
- En utilisant votre magnétoscope comme platine de lecture, sélectionner le mode COPIE avec la touche ADAPTATION IMAGE de la télécommande. ☞ p.22
- Si la platine d'enregistrement dispose d'une borne de sortie de commande de pause, la raccorder à la borne TELEC. de votre magnétoscope pour un montage à pré-enroulement synchronisé.

## Montage vers/à partir d'un autre magnétoscope

- Utilisé comme platine d'enregistrement, votre magnétoscope peut être raccordé à un autre magnétoscope de trois façons différentes.
- Utilisé comme platine de lecture, votre magnétoscope peut être raccordé à un autre magnétoscope de deux façons différentes.
- Choisir le raccordement approprié en fonction du type de l'autre magnétoscope.

### RACCORDEMENT A 21 BROCHES

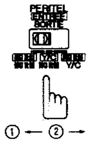
1. Raccorder les deux magnétoscopes en utilisant un câble approprié.
2. Régler le commutateur PERITEL (ENTREE) SORTIE comme requis. Voir le tableau.
3. Mettre la platine d'enregistrement dans le mode d'entrée approprié.
   - Avec votre magnétoscope, mode ENTREE AUX (touche "0" ou CHAINE).

### RACCORDEMENT S OU RCA (AUDIO et VIDEO)

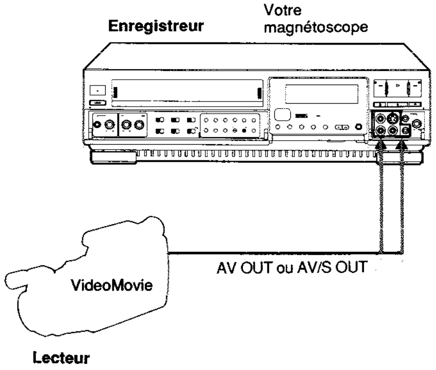
1. Raccorder SORTIE S ou SORTIE VIDEO de la platine de lecture à ENTREE S ou ENTREE VIDEO avant ou arrière de la platine d'enregistrement, et SORTIE AUDIO à ENTREE AUDIO.
2. Mettre la platine d'enregistrement dans le mode d'entrée approprié.
   - Avec votre magnétoscope, mode ENTREE-S (touche "0" ou CHAINE pour ENTREE AUX, puis PERI/S pour ENTREE-S).

## Réglage du commutateur PERITEL (ENTREE) SORTIE

Si votre magnétoscope est utilisé comme lecteur source, ce commutateur fonctionne comme sélecteur de sortie, et utilisé comme platine d'enregistrement, il fonctionne comme sélecteur d'entrée.


PERITEL (ENTREE) SORTIE
①→②→③

| HR-S4700MS / Appareil source | Comme lecteur source | Comme enregistreur |
|---|---|---|
| Avec une prise AV à 21 broches | ① ou ② | ① ou ③ |
| Avec une prise Y/C à 21 broches | ③ | ② |


Enregistreur
Votre magnétoscope
VideoMovie
AV OUT ou AV/S OUT
Lecteur

## Montage à partir d'un camescope

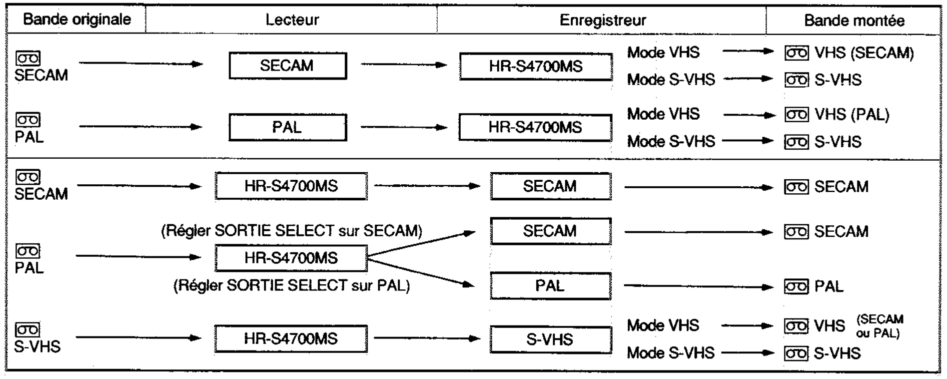
Le montage bande sur bande est également possible en utilisant un camescope Vidéomovie JVC (avec possibilité de lecture) comme lecteur et votre magnétoscope comme platine d'enregistrement. Dans ce cas, la borne TELEC. du magnétoscope peut être utilisée pour accepter les commandes de montage du camescope.

1. Raccorder le connecteur AV OUT ou AV/S OUT du camescope aux connecteurs ENTREE 2 du panneau avant du magnétoscope, en utilisant les câbles appropriés.
2. Raccorder la mini-fiche du câble de sortie AV ou AV/S à la borne TELEC. du magnétoscope.
3. Sélectionner le mode ENTREE-S (touche "0" ou CHAINE pour ENTREE AUX, puis PERI/S pour ENTREE-S).

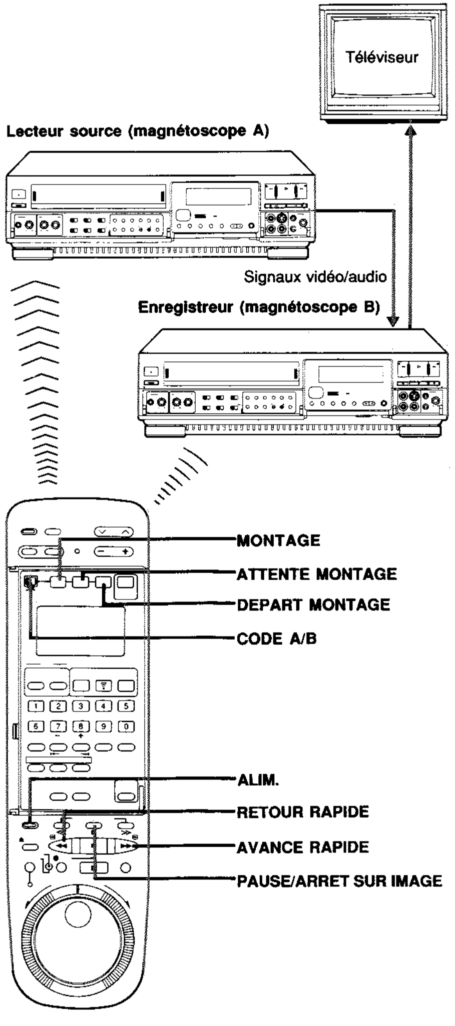
## REMARQUE:

- Vous pouvez également utiliser la prise PERITELEVISION et la borne TELEC. du panneau arrière. Dans ce cas, sélectionner le mode ENTREE AUX et régler le commutateur PERITEL (ENTREE) SORTIE comme requis. ☞ p.31

## Applications possibles


Bande originale
Lecteur
Enregistreur
Bande montée
SECAM
SECAM
HR-S4700MS
Mode VHS
VHS (SECAM)
Mode S-VHS
S-VHS
PAL
PAL
HR-S4700MS
Mode VHS
VHS (PAL)
Mode S-VHS
S-VHS
SECAM
HR-S4700MS
SECAM
SECAM
(Régler SORTIE SELECT sur SECAM)
SECAM
SECAM
PAL
HR-S4700MS
(Régler SORTIE SELECT sur PAL)
PAL
PAL
S-VHS
HR-S4700MS
S-VHS
Mode VHS
VHS (SECAM ou PAL)
Mode S-VHS
S-VHS

# Pour le montage (suite)



**ATTENTION:**
Certains téléviseurs peuvent mal fonctionner en réponse au code B. Si cela arrive revenir sur le mode A.

## Montage double

Pour les personnes qui ont deux magnétoscopes JVC et qui sont intéressées pour faire du montage, cette fonction simplifiera les opérations en fournissant simultanément des commandes séparées aux deux magnétoscopes par une seule télécommande sous la forme de codes de commande séparés "A" et "B". (Certains modèles de JVC seulement.)

**PREPARATIFS**

1. Raccorder les deux magnétoscopes JVC. (Le raccordement de TELEC. n'est pas nécessaire.) ☞ p.31.
2. Régler un magnétoscope pour qu'il réponde aux signaux de code A (magnétoscope A) et l'autre pour répondre aux signaux de code B (magnétoscope B). ☞ "Commutation de code A/B"
3. Placer les magnétoscopes côte à côte.
4. Charger une cassette enregistrée dans le magnétoscope A, et une cassette vierge dans le magnétoscope B.
   - S'assurer que l'horloge de la télécommande a été réglée.

**FONCTIONNEMENT**

5. Appuyer sur la touche MONTAGE ("MONTAGE" et "A → B" apparaîtront sur l'affichage à cristaux liquides.)
   - Si vous utilisez le magnétoscope B comme lecteur, et le magnétoscope A comme enregistreur, appuyer sur la touche CODE A/B. "A → B" sera remplacé par "B → A".
6. Appuyer sur ATTENTE MONTAGE. Le magnétoscope A passe en mode d'arrêt sur image, le magnétoscope B passe en mode de pause d'enregistrement.
7. Rechercher une scène que vous voulez monter du magnétoscope A vers le magnétoscope B (seule la bande dans le magnétoscope A défilera) et appuyer sur ▮▮ (pause/arrêt sur image).
8. Appuyer sur DEPART MONTAGE. Le magnétoscope A passe en mode de lecture, B passe en mode d'enregistrement.
9. Appuyer sur ▮▮ (pause/arrêt sur image). Le magnétoscope A passe en mode d'arrêt sur image, le magnétoscope B passe en mode de pause d'enregistrement.
   - Reprendre les étapes 7, 8 et 9 pour continuer le montage.
10. Appuyer sur MONTAGE pour annuler le mode de montage double.

## Commutation de code A/B

La télécommande est préréglée pour envoyer des signaux de code A (indiqué par " CODE A " sur le LCD) car votre magnétoscope est réglé à l'origine pour répondre aux signaux de code A. Vous pouvez facilement modifier votre magnétoscope pour qu'il réponde aux signaux de code B.

1. Débrancher le cordon d'alimentation du magnétoscope de la prise secteur.
2. Appuyer sur la touche CODE A/B. (" CODE B " apparaîtra sur le LCD.)
3. Rebrancher le cordon d'alimentation à la prise secteur. Ne pas utiliser d'autres télécommandes à ce stade.
4. Mettre l'alimentation du magnétoscope en utilisant la touche ALIM. de la télécommande. Le magnétoscope ne répondra alors qu'aux signaux de code B.

**REMARQUE:**
Vous pouvez commander deux magnétoscopes (A et B) indépendamment avec votre télécommande. Sauf dans le montage double, elle enverra seulement des signaux de code A ou B, sélectionnés par la touche CODE A/B.

# Opérations spéciales

## Réglage de l'horloge du magnétoscope directement

Pour régler l'horloge du magnétoscope, tout ce que vous avez à faire est de transférer à nouveau les données de l'horloge LCD (☞ p.10). Si vous préférez régler ou ajuster l'horloge du magnétoscope directement sur le magnétoscope, lire ceci.

1. Appuyer sur MISE A L'HEURE.
   - Si vous ajustez simplement l'heure, le mode de programmation de la minuterie sera d'abord engagé. Ainsi appuyer à nouveau sur MISE A L'HEURE.
2. Appuyer sur REGLAGE (+ ou –) pour entrer les heures.
3. Appuyer sur SELECTION, et puis sur REGLAGE (+ ou –) pour entrer les minutes.
   - Si vous ajustez simplement l'heure, sauter les étapes 4 à 6.
4. Appuyer sur SELECTION, puis sur REGLAGE pour entrer le jour.
5. Appuyer sur SELECTION, puis sur REGLAGE pour entrer le mois.
6. Appuyer sur SELECTION, puis sur REGLAGE pour entrer l'année.
7. Appuyer sur MISE A L'HEURE.

**REMARQUES:**

- Si les valeurs pour le jour et le mois sont invalides (tel le 31 avril), les chiffres du mois sont automatiquement effacés et les chiffres du jour clignoteront. Entrer à nouveau les valeurs.
- Si les chiffres de l'année sont automatiquement effacés quand la touche MISE A L'HEURE est pressée dans l'étape 7, il est possible que vous avez entré le 29 février pour une année non-bissextile. Les chiffres du jour clignoteront. Entrer à nouveau les valeurs.

## Réglage de l'horloge pour le passage en heure d'été/hiver

Ce réglage peut être fait indépendamment pour l'horloge LCD et l'horloge du magnétoscope.

**POUR FAIRE AVANCER L'HORLOGE D'UNE HEURE**

- Appuyer sur HEURE D'ETE et relâcher rapidement.

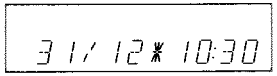
**POUR FAIRE RETARDER L'HORLOGE D'UNE HEURE**

- Maintenir pressée HEURE D'ETE pendant plus de 2 secondes.

## Verrouillage des commandes du magnétoscope

Pour éviter un fonctionnement non voulu et éviter des enregistrements accidentels ou d'autres interférences, utiliser la fonction de verrouillage enfant.

1. Appuyer sur la touche ALIM. (VHS) de la télécommande pour couper l'alimentation du magnétoscope. Garder cette touche pressée pendant un peu plus de 2 secondes après l'extinction de l'indicateur à LED d'alimentation.
   - L'indicateur de verrouillage enfant (✱) apparaîtra entre la date et l'heure sur le panneau d'affichage.



2. Le verrouillage enfant est automatiquement désactivé quand vous remettez l'alimentation du magnétoscope avec la touche ALIM. (VHS) de la télécommande.
   - Appuyer sur la touche AUTO pendant l'enregistrement par minuterie désactive le mode de verrouillage enfant.

**REMARQUES:**

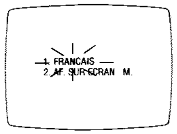
- Alors que le mode de verrouillage enfant est engagé, s'assurer de bien placer votre télécommande dans un endroit sûr, inaccessible des enfants.
- L'enregistrement par minuterie est possible dans le mode de verrouillage enfant. Après l'exécution de l'enregistrement par minuterie, le mode de verrouillage enfant reste en effet.

## Réglage sur écran

**Sélection de langue**

Bien que la langue préréglée sur écran soit le français, vous pouvez régler votre magnétoscope pour afficher des messages sur écran dans un choix de 10 langues (FRANCAIS, ITALIANO, ESPANOL, NEDERLANDS, SVENSKA, NORSK, SUOMI, DANSK, ENGLISH et DEUTSCH).

1. Appuyer sur la touche A.S.E. sur la télécommande pendant plus de 2 secondes.
2. Appuyer sur REGL + ou – jusqu'à l'affichage de la langue voulue.
3. Appuyer sur A.S.E. pendant que la langue clignote.

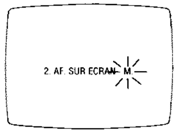


## Fonction marche/arrêt d'affichage sur écran

Si vous ne voulez pas d'affichages sur écran, la fonction peut être annulée.

1. Appuyer sur SELECTION après l'étape 1 précédente.
2. Appuyer sur une touche REGL.
3. Appuyer sur A.S.E. pendant que l'état clignote.

- Même avec la fonction réglée sur A., "PAUSE" est affiché aussi longtemps que le mode de pause est engagé. Bien sûr, la programmation de la minuterie sur écran n'est pas affectée.



# VCR Changement de canaux préréglés

**POUR CONTROLER LES CANAUX REELS EN MEMOIRE**

C'est possible sur le magnétoscope et avec la télécommande. D'abord mettre en marche le magnétoscope.

1. Appuyer sur CHAINE pour sélectionner la position de canal du canal réel mis en mémoire dont vous voulez connaître le numéro. (exemple: CH. 10)
2. Appuyer sur REGLAGE CANAL.

MEMO 10

CANAL CF07

- Ceci indique que la position de canal 10 contient le canal réel 7.

3. Pour contrôler d'autres positions de canal, appuyer sur CHAINE.
   - Soit "MEMO xx" ou "SAUT xx" apparaîtra, suivi par "CANAL CF xx".
4. Le mode de réglage de canal sera annulé au bout de 10 secondes sauf si vous appelez une autre position de canal.

**POUR ANNULER DES CANAUX EN MEMOIRE**

Utiliser les commandes du magnétoscope. D'abord mettre en marche le magnétoscope.

1. Appuyer sur la touche CHAINE pour sélectionner la position de canal que vous voulez sauter. (exemple: CH. 10)
2. Appuyer sur REGLAGE CANAL.

MEMO 10

3. Appuyer sur la touche SAUT.

SAUT -10-

CANAL CF:07

- Ceci indique que le canal réel 7 a été effacé de la position de canal 10.

**POUR METTRE EN MEMOIRE DE NOUVEAUX CANAUX**

Utiliser la télécommande car ses 10 touches numériques peuvent accéder directement aux canaux réels et aux positions de canal. (Utiliser la touche RECHERCHE automatique du magnétoscope effacera tous les canaux préréglés.) D'abord mettre en marche le magnétoscope.

1. Appuyer sur CANAL REEL.

CANAL CF07

2. Appuyer à nouveau sur CANAL REEL et la maintenir pressée jusqu'à ce que le numéro de canal réel commence à clignoter.
3. Appuyer sur les touches numériques pour entrer le numéro du canal réel que vous voulez mettre en mémoire. (exemple: CF 25.)
   - Si c'est un canal TV codé, appuyer sur la touche TV CODÉE avant de passer à l'étape suivante.

CANAL CF:25

SAUT -10-

4. Appuyer sur les touches numériques pour entrer le numéro d'une position de canal vacante (ex. 20), et maintenir la touche du 2ème chiffre jusqu'au changement de l'affichage en "MEMO 20".

MEMO 20

CANAL CF25

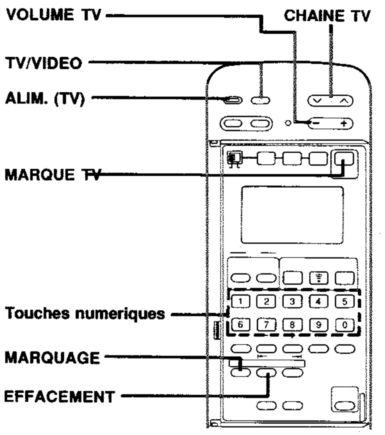
- Le mode de réglage de canal sera annulé automatiquement après environ 10 secondes.

## REMARQUES:

- L'exemple ici se réfère aux canaux dans la gamme CF (canaux SECAM-L). Si vous voulez ajouter un canal dans la gamme Ch (canaux VHF et UHF PAL-B/G) ou la gamme CC (canaux câblés PAL B/G), sélectionner la gamme en appuyant sur la touche CANAL REEL après l'étape 2 précédente: CF → Ch → CC.
- Pour la correspondance entre les émetteurs TV et les indications de canal réel du magnétoscope ☞p.42.

# Utilisation de la télécommande pour le fonctionnement TV

La télécommande fournie peut commander les fonctions de base de votre téléviseur. En plus des téléviseurs JVC, des téléviseurs d'autres fabricants indiqués ici peuvent également être commandés en réglant la télécommande sur le code TV correspondant. Le code par défaut de la télécommande est "1", qui permet de commander la plupart des téléviseurs JVC sans nouveau réglage. Si votre téléviseur JVC a des touches +10 et +20 sur sa télécommande, vous devez régler le code TV sur "9".

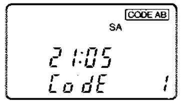


| CODE | MARQUE DE TELEVISEUR |
|---|---|
| 1 | JVC |
| 2 | GRAETZ<br>ITT<br>LUXOR<br>SALORA<br>SELECO |
| 3 | BRANDT<br>NORDMENDE<br>SABA<br>TELEAVIA<br>TELEFUNKEN<br>THOMSON |
| 4 | FERGUSON |
| 5 | PHILIPS |
| 6 | BLAUPUNKT<br>GRUNDIG |
| 7 | SONY |
| 8 | PANASONIC |
| 9 | JVC |

**IMPORTANT**

**Bien que le boîtier de télécommande fourni soit compatible avec les téléviseurs JVC, ainsi qu'avec de nombreux modèles de téléviseurs d'autres fabricants, il est possible que la télécommande fournie ne fonctionne pas avec votre téléviseur, ou avec des possibilités limitées.**

## Réglage du code TV



1. Appuyer sur MARQUE TV pendant plus de 2 secondes.
   - L'affichage à cristaux liquides montrera le code courant (à l'origine "Code 1").
2. Appuyer sur une touche numérique correspondant au numéro de code pour la marque de votre téléviseur.
   - L'affichage à cristaux liquides reviendra au mode d'horloge au bout de 2 secondes.

**REMARQUES:**

- Le réglage de code TV n'est pas possible tant que l'horloge n'a pas été réglée.
- Quand vous remplacez les piles dans la télécommande ou initialisez la mémoire LCD (☞p.4), il est nécessaire de régler à nouveau le code TV, si votre téléviseur n'est pas un téléviseur JVC Code 1.

## Pour commander votre téléviseur avec des touches exclusivement pour TV

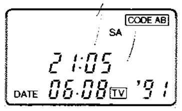
- Appuyer sur ALIM. (TV) pour mettre l'alimentation du téléviseur.
- Appuyer sur TV/VIDEO pour commuter le téléviseur entre le mode TV et VIDEO (ou AV).
- Appuyer sur CHAINE TV pour sélectionner le canal du téléviseur.
- Appuyer sur VOLUME TV pour ajuster le volume du son du téléviseur.

**REMARQUES:**

- La touche CHAINE TV ne fonctionne pas avec les téléviseurs utilisant le code 3.
- La touche TV/VIDEO ne fonctionne pas avec les téléviseurs utilisant le code 4.
- Avec certains téléviseurs, la touche ALIM. (TV) fonctionne seulement pour couper l'alimentation du téléviseur, et la touche TV/VIDEO fonctionne seulement pour commuter le mode TV vers le mode VIDEO (AV).

## Pour commander votre téléviseur avec des touches supplémentaires

Les touches numériques peuvent également être utilisées pour sélectionner le canal du téléviseur en réglant la télécommande sur le mode TV.



1. Appuyer sur MARQUE TV.
   - "TV" apparaîtra sur l'affichage à cristaux liquides.
2. Utiliser les touches numériques et MARQUAGE/EFFACEMENT pour sélectionner le canal du téléviseur pendant que "TV" est sur l'affichage à cristaux liquides.
   - Avec des téléviseurs utilisant le code 1, 4, 5, 7 ou 8, les deux touches MARQUAGE/EFFACEMENT correspondent à la touche de commutation d'entrée 1 chiffre/2 chiffres (souvent marquée -/--) de la télécommande de votre téléviseur.
   - Avec des téléviseurs utilisant le code 2, 6 ou 9, la touche MARQUAGE correspond à la touche 10+, et la touche EFFACEMENT, à la touche 20+ de la télécommande de votre téléviseur.

**REMARQUES:**

La façon d'utiliser ces touches est déterminée par votre téléviseur. Utiliser ces touches comme indiqué pour la télécommande de votre téléviseur.

# Liste des messages du panneau d'affichage

Les messages non apparus dans ce manuel sont indiqués ici. Les messages plus courants sont tous clairement illustrés dans les sections concernées.

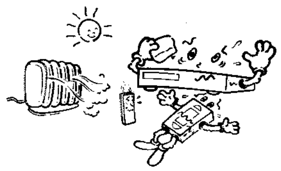
| Message affiché | Quand il apparaît, sa signification |
|---|---|
| **Pendant le réglage de l'horloge** | |
| 12:59<br>30/11/91 | "12:59" est entré pour l'heure.<br>Le 30 novembre 1991 est entré pour la date. |
| **Pendant la programmation** | |
| VPS CH. 10 | "10" est entré comme le canal à enregistrer, avec VPS en marche. |
| VPS M. | L'état "VPS" est changé de l'arrêt à marche. Affiché pendant 2 secondes. |
| VPS A. | L'état "VPS" est changé de marche à l'arrêt. Affiché pendant 2 secondes. |
| **Pendant le réglage de canal** | |
| CANAL Ch 02 | "Le canal réel 02 dans la gamme Ch (B/G)" est balayé. |
| CANAL CC 02 | "Le canal réel 02 dans la gamme CC (câble B/G)" est balayé. |
| CANAL Ch :15 | "Le canal réel 15 dans la gamme Ch" est reçu, mais pas mémorisé. |
| CANAL CC :15 | "Le canal réel 15 dans la gamme CC" est reçu, mais pas mémorisé. |
| FIN - Ch 15 | "L'accord fin" est engagé pour le "canal réel 15 dans la gamme Ch". |
| FIN - CC 15 | "L'accord fin" est engagé pour le "canal réel 15 dans la gamme CC". |
| TV CODEE A | L'état "décodage" est changé de marche à l'arrêt. Affiché pendant 2 secondes. |
| **Pendant le fonctionnement normal** | |
| VITESSE VN | La vitesse de bande est changée de LD à VN. Affiché pendant 5 secondes. |
| VITESSE LD | La vitesse de bande est changée de VN à LD. Affiché pendant 5 secondes. |
| DOUB SON | Le doublage audio est en cours. |
| DOUB SON P | Le doublage audio est en pause. |
| ENTREE AUX | L'entrée externe est sélectionnée. L'entrée composite est sélectionnée, ou l'entrée S est annulée en appuyant sur la touche PERI/S. |
| ENTREE-S | L'entrée S est sélectionnée, ou l'entrée composite est annulée en appuyant sur la touche PERI/S. |
| ENR VN AUX | Enregistrement d'une entrée externe via A/V ENTREE/SORTIE dans le mode VN. |
| ENR LD AUX | Enregistrement d'une entrée externe via A/V ENTREE/SORTIE dans le mode LD. |
| ENR VN S | Enregistrement d'une entrée externe via ENTREE S dans le mode VN. |
| ENR LD S | Enregistrement d'une entrée externe via ENTREE S dans le mode LD. |
| PAUSE AUX | Pause d'enregistrement pendant ENR VN (ou LD) AUX. |
| PAUSE S | Pause d'enregistrement pendant ENR VN (ou LD) S. |
| ENR VPS | L'enregistrement VPS est en cours. |
| SIMULTANE | L'enregistrement simultané est sélectionné. Affiché pendant 5 secondes. |
| SAUT | La recherche de saut est lancée. Affiché pendant 5 secondes. |
| DER IMAGE | La recherche de blanc est lancée. Change en RESTE après 5 secondes. |
| INDEX + 9 | Recherche du 9ème code d'indexation dans le sens avant. |
| INDEX – 4 | Recherche du 4ème code d'indexation dans le sens inverse. |
| MARQUAGE | Un code d'indexation est marqué. |
| EFFACEMENT | Un code d'indexation est effacé. |
| REPETITION | Clignotant pendant le réembobinage pour la lecture répétée. |
| VPS CH. 10 | Un programme VPS est reçu sur le canal 10. |
| **Pendant la mémoire de la fonction suivante** | |
| RET – ARRET<br>ARRET | Fera le réembobinage jusqu'au début de la bande et puis coupera automatiquement l'alimentation. |
| RET – LECT<br>LECTURE | Fera le réembobinage jusqu'au début de la bande et puis lancera automatiquement la lecture. |
| RET – AUTO<br>AUTO | Fera le réembobinage jusqu'au début de la bande et puis passe automatiquement en mode de minuterie. |
| RET – EJECT<br>EJECTION | Fera le réembobinage jusqu'au début de la bande et puis éjecte automatiquement la bande. |
| **Affichages de l'horloge et du compteur** | |
| 4:30:15 | Lecture du compteur de bande pour 4 heures, 30 minutes et 15 secondes. |
| 31/12 10:30 | Le 31 décembre à 10:30.<br>(Affichage standard de la date/heure quand l'alimentation du magnétoscope est coupée.) |
| 31/12 ⚷ 10:30 | Comme au-dessus avec le verrouillage enfant activé. |
| ENR LD 1:30 | Enregistrement dans le mode LD avec la minuterie d'arrêt réglée pour couper dans 1 heure 30 minutes |
| AUTO ⚷ 10:30 | Il est 10:30 et le mode d'attente de minuterie est engagé avec le verrouillage enfant activé. |
| VPS 12:59 | Il est 12:59 et le mode d'attente VPS est engagé. |
| VPS ⚷ 12:59 | Comme au-dessus avec le verrouillage enfant activé. |
| REGL HORL ⚷ | L'horloge n'est pas réglée. Il faut la régler. Le magnétoscope est bloqué avec le verrouillage enfant activé. |
| RESTE 2:24 | 2 heures et 24 minutes de durée d'enregistrement restante sur la bande. |
| **Autres messages** | |
| BONJOUR<br>BONSOIR | Salutations automatiques quand l'alimentation du magnétoscope est mise sur marche. |
| AU REVOIR<br>BONNE NUIT | Salutations automatiques quand l'alimentation du magnétoscope est coupée. |

## REMARQUES:

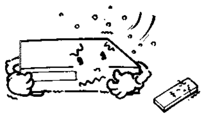
Cette liste représente différents types de messages que votre magnétoscope est capable de générer. Les messages réels affichés par votre magnétoscope (en particulier si la date, l'heure, le canal, la lecture du compteur de bande, ou d'autres variables sont inclus) seront légèrement différents de ceux listés ici.

# Précautions à observer

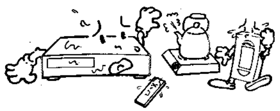
## Soins pour le magnétoscope, la télécommande et les cassettes



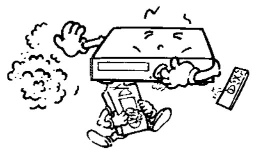
**Eviter les endroits très chauds et l'exposition au soleil**



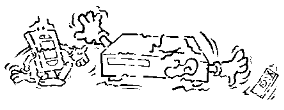
**Eviter les endroits très froids**



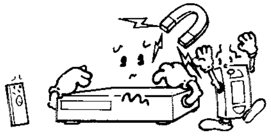
**Eviter les endroits très humides**



**Eviter les endroits très poussiéreux**

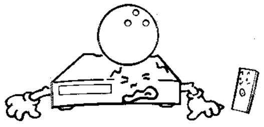


**Eviter les endroits soumis à des vibrations**

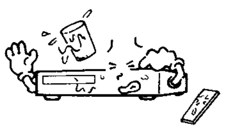


**Eviter les champs magnétiques puissants**

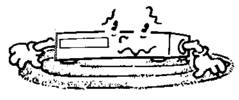
**Ne pas boucher les trous d'aération sur le magnétoscope**



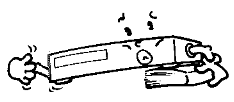
**Ne pas poser d'objets lourds sur le magnétoscope ou sur la télécommande**



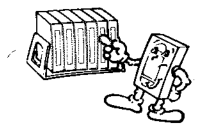
**Ne pas poser d'objets susceptibles de se renverser sur le dessus du magnétoscope ou de la télécommande**



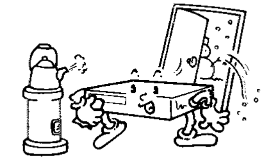
**Ne pas placer le magnétoscope sur des coussins, des oreillers ou sur une carpette épaisse**



**Utiliser l'appareil en position horizontale et stable seulement**

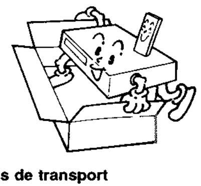


**Remettre les cassettes dans leurs boîtes et les ranger verticalement**



**Attention à la condensation de l'humidité**

L'humidité dans l'air se condensera sur le magnétoscope quand vous le transportez d'une pièce froide à une pièce chaude, ou sous des conditions de très forte humidité, comme des gouttelettes d'eau qui se forment à la surface d'un verre rempli avec un liquide froid. La condensation de l'humidité sur le tambour de têtes causera des dommages à la bande. Dans les cas où la condensation de l'humidité peut se produire, laisser l'alimentation mise pendant quelques heures pour que le magnétoscope devienne sec.



**En cas de transport**

- Bien retirer la cassette du magnétoscope avant de l'emballer.
- Eviter des chocs violents au magnétoscope en cours d'emballage et de transport.

# En cas de difficulté

## PROBLEMES D'ALIMENTATION ET DE TRANSPORT DE BANDE

| Symptômes | Points à vérifier |
|---|---|
| Le magnétoscope ne reçoit aucune alimentation. | ■ Le cordon d'alimentation est-il débranché?<br>— Le brancher. |
| L'horloge fonctionne correctement mais le magnétoscope ne peut pas être alimenté. | ■ "AUTO" est-il affiché sur le panneau d'affichage ?<br>— Appuyer sur la touche AUTO pour éteindre l'affichage. |
| La bande ne défile pas pendant l'enregistrement. | ■ "PAUSE" est-il affiché sur le panneau d'affichage ?<br>— Appuyer sur la touche LECTURE pour éteindre l'affichage. |
| La bande s'arrête en modes de retour et d'avance rapides. | ■ La touche MEMOIRE COMPTEUR est-elle pressée ?<br>— Appuyer à nouveau pour faire disparaître "M" du panneau d'affichage. |
| La bande ne se réembobine pas et n'avance pas rapidement. | ■ La bande est-elle déjà réembobinée ou avancée?<br>— Vérifier la cassette. |

## PROBLEMES D'ENREGISTREMENT

| Symptômes | Points à vérifier |
|---|---|
| L'enregistrement ne peut être lancé. | ■ Une cassette est-elle en place?<br>■ La languette d'enregistrement de la cassette est-elle retirée?<br>— Boucher le trou avec de l'adhésif. |
| Les émissions TV ne peuvent pas être enregistrées. | ■ "AUX" a-t-il été sélectionné ?<br>— Régler sur le canal voulu. |
| Le montage bande sur bande n'est pas possible | ■ Le camescope ou l'autre appareil est-il correctement raccordé ?<br>■ Tous les interrupteurs d'alimentation nécessaires sont-ils tous sur marche ?<br>■ "AUX" a-t-il été sélectionné ?<br>— Régler sur "AUX". |
| L'enregistrement par caméra n'est pas possible. | ■ Le camescope est-il correctement raccordé ?<br>■ "AUX" a-t-il été sélectionné ?<br>— Régler sur "AUX". |
| L'enregistrement par minuterie n'est pas possible. | ■ Avez-vous réglé l'horloge correctement et programmé la minuterie comme il faut?<br>— Vérifier à nouveau.<br>■ "AUTO" est-il affiché sur le panneau d'affichage ?<br>— Si non, appuyer sur la touche AUTO pour afficher "AUTO". |

## PROBLEMES DE LECTURE

| Symptômes | Points à vérifier |
|---|---|
| L'image de lecture n'apparaît pas quand la bande défile. | ■ Si vous utilisez le raccordement HF, le sélecteur de canal du récepteur TV est-il sur le bon canal vidéo?<br>— Le placer sur le canal du convertisseur HF (UHF 36). (☞ p.9)<br>■ Si vous utilisez le raccordement AV, le téléviseur est-il en mode AV?<br>— Mettre le téléviseur dans le mode AV. |
| La lecture est répétée. | ■ Le commutateur REPETITION est-il réglé sur "COMP." ou "INDEX" ?<br>— Le régler sur "A." |
| Du bruit apparaît en recherche visuelle. | ■ C'est normal. |
| Du bruit apparaît en lecture normale. | ■ Le mode d'alignement automatique est-il engagé ?<br>— Essayer en mode d'alignement manuel. (☞ p.21) |
| Du bruit apparaît au ralenti. | — Essayer en mode d'alignement manuel. (☞ p.21) |
| Du bruit apparaît en arrêt sur image. | — Appuyer sur PAUSE/IMAGE plusieurs fois pour sortir les barres de bruit de l'écran. |
| L'image de lecture est floue ou interrompue alors que les émissions TV sont nettes. | ■ Les têtes vidéo sont sans doute sales.<br>— Le nettoyage des têtes doit être effectué. Consulter votre revendeur JVC le plus proche. (☞ p.40) |

## PROBLEMES AUDIO Hi-Fi

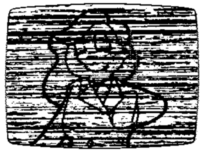
| Symptômes | Points à vérifier |
|---|---|
| Le son TV ne peut pas être enregistré sur la piste audio Hi-Fi. | ■ La touche SIM a-t-elle été pressée ?<br>— Vérifier en appuyant sur A.S.E. Si "SIMULTANE" apparaît sur l'écran, l'annuler en appuyant sur la touche SIM. |
| Des bruits se remarquent dans la reproduction audio Hi-Fi. | ■ Le mode d'alignement automatique est-il engagé ?<br>— Essayer l'alignement manuel. (☞ p.21) |

## AUTRES

| Symptômes | Points à vérifier |
|---|---|
| Des sifflements ou hurlements proviennent du téléviseur. | ■ Eloigner la caméra ou le microphone du téléviseur ou encore réduire le volume sonore du téléviseur. |
| Le réglage de l'horloge n'est pas possible. | ■ "AUTO" est-il affiché sur le panneau d'affichage ?<br>— Appuyer sur la touche AUTO pour éteindre l'affichage. |
| Certains canaux sont sautés lors de la sélection de canal. | ■ Ces canaux ont été préréglés pour être sautés. Si vous voulez les retrouver, les remettre en mémoire. (☞ p. 35) |
| La commutation des canaux est impossible. | ■ L'enregistrement est-il en cours?<br>— Appuyer sur la touche PAUSE/IMAGE, sélectionner le canal désiré et appuyer sur LECTURE. |
| La télécommande ne fonctionne pas. | ■ Les piles sont usées.<br>— Les remplacer par des neuves.<br>■ L'indicateur CODE A/B montre-t-il le code correct pour le magnétoscope à commander ?<br>— Appuyer sur la touche CODE A/B pour le bon réglage. |
| La recherche indexée ne fonctionne pas correctement. | ■ Des codes d'indexation voisins peuvent être trop près les uns des autres.<br>— Effacer certains codes d'indexation et en marquer d'autres, si nécessaire, avec une distance suffisante entre deux codes d'indexation. |
| Une image "neigeuse" apparaît sur l'écran lors du visionnement d'un programme tout en en enregistrant un autre. | ■ L'indicateur VIDEO est-il allumé sur le panneau fluorescent ?<br>— L'indicateur VIDEO est-il allumé sur le panneau fluorescent ? |

**ATTENTION:**
Ce magnétoscope contient des microprocesseurs. Des bruits électroniques externes ou des interférences peuvent causer un mauvais fonctionnement. Dans de tels cas, couper l'alimentation et débrancher le cordon secteur. Puis rebrancher et remettre l'alimentation. Sortir la cassette. Après contrôle de la cassette, faire fonctionner l'appareil comme d'ordinaire.

# Note spéciale sur le nettoyage des têtes



L'accumulation de poussière et d'autres particules sur les têtes vidéo peut rendre l'image de lecture brouillée ou interrompue. Bien que ce modèle dispose d'un système de nettoyage automatique des têtes, si de tels troubles apparaissent, veuillez bien consulter le revendeur JVC le plus proche.

# Caractéristiques techniques

**GENERALES**

Alimentation : CA 220 – 240 V∿, 50/60 Hz
Consommation : 39 W
Températures : 5°C à 40°C (Fonctionnement)
–20°C à 60°C (Stockage)
Position de fonctionnement : Seulement horizontale
Dimensions (LxHxP) : 435 x 123 x 373 mm
Poids : 7,2 kg
Format : Standard S-VHS/VHS PAL/VHS SECAM avec audio Hi-Fi
Largeur de bande : 12,65 mm
Vitesse de bande
(VN) : 23,39 mm/s
(LD) : 11,70 mm/s
Durée maximale d'enregistrement
(VN) : 240 mm avec une cassette vidéo E-240
(LD) : 480 mm avec une cassette vidéo E-240

**VIDEO**

Système de signal : Signaux couleur PAL/SECAM et Y/C séparés, 625 lignes/ 50 trames
Système d'enregistrement : Système à deux têtes rotatives, balayage hélicoïdal avec combinaison de têtes vidéo à double azimut incliné
Entrée : 0,5 à 2,0 Vcc, 75 ohms, asymétrique
Sortie : 1,0 Vcc, 75 ohms, asymétrique
Rapport signal/bruit : 43 dB (mesureur de bruit Rohde & Schwarz)
Résolution horizontale : Plus de 400 lignes (S-VHS)/250 lignes (VHS PAL), 240 lignes (VHS SECAM), la commande de l'image sur sa position "NORMAL"

**AUDIO**

Entrée : Micro: –67 dBs, haute impédance, asymétrique
Connecteur ENTREE AUDIO
(RCA x 2):
–8 dBs, 50 kohms, asymétrique
Prise PERITELEVISION
–3,8 dBs (standard CENELEC), 10 kohms, asymétrique
Niveau de sortie : Prise PERITELEVISION
–3,8 dBs (standard CENELEC), haute impédance de charge
Connecteur SORTIE AUDIO
(RCA x 2):
–6 dBs, haute impédance de charge

**AUDIO NORMAL**

Système d'enregistrement : Piste longitudinale
Nombre de canaux audio : 1 (monophonique)
Réponse en fréquence : 70 Hz à 10.000 Hz

**AUDIO HI-FI**

Système d'enregistrement : Enregistrement sur couche profonde conforme au standard Hi-Fi VHS
Nombre de canaux audio : 2 canaux audio hi-fi
Réponse en fréquence : 20 Hz à 20.000 Hz
Gamme dynamique : Plus de 90 dB
Pleurage et scintillement : Moins de 0,005 % WRMS

**SYNTONISEUR**

Système de syntonisation : Syntoniseur à synthèse de fréquence
Capacité de canaux TV : 48 positions (+ position AUX)
Canaux couverts :

| | Fréquence | Canaux L | Canaux B/G |
|---|---|---|---|
| VHF gamme I | 47 – 111 MHz | Canaux 2 – 4 | Canaux E2 – E4 |
| VHF gamme III | 111 – 300 MHz | Canaux 5 – 10 | Canaux E5 – E12 |
| UHF gamme IV/V | 470 – 862 MHz | Canaux 21 – 69 | Canaux E21 – E69 |
| Canaux câblés | | Canaux B – Q<br>Canaux 70 – 86 | Canaux S1 – S20<br>Canaux X, Y, Z<br>Canaux M1 – M10<br>Canaux U1 – U10 |

Sortie d'antenne : Canal UHF 36 (réglable de 32 à 40)

**MINUTERIE**

Référence de l'horloge : Par quartz
Capacité de programmation : Minuterie sur 1 an/8 programmes
Durée de soutien mémoire : 60 mn

**ACCESSOIRES**

Accessoires fournis : Câble d'antenne,
Boîtier de télécommande à infrarouge,
Pile "R6" x 2
Câble audio (RCA-RCA)
Câble S-vidéo (4 broches/4 broches)

Les caractéristiques techniques sont pour le mode VN à moins d'indication contraire.
Présentation et caractéristiques modifiables sans préavis.

# Informations importantes sur les systèmes couleur

## PAL et SECAM

- PAL et SECAM désignent deux systèmes différents de télévision couleur.
- Votre magnétoscope peut enregistrer et lire les signaux des deux systèmes dans n'importe quel mode (VHS VN, VHS LD, S-VHS VN et S-VHS LD).
- Comme le système S-VHS européen est un standard unifié, les enregistrements S-VHS sont les mêmes que le signal original soit PAL ou SECAM.
- L'enregistrement de programmes TV est possible où des émissions en PAL-B/G et SECAM-L peuvent être reçues, puisque le syntoniseur incorporé est un syntoniseur double système.
- Le signal de sortie (via HF et AV) peut être PAL ou SECAM en fonction du réglage du commutateur SELECT SORTIE. Régler ce commutateur sur la position en fonction du standard de votre téléviseur (ou de l'autre magnétoscope en copiant à partir de votre magnétoscope).
- Une exception est un signal SECAM enregistré dans le mode VHS VN (Vitesse Normale). Dans ce cas, le signal de sortie disponible est seulement SECAM, quel que soit le réglage du commutateur SELECT SORTIE.
- La sortie E-E (Electrique - Electrique) (un signal de sortie direct, c'est à dire le signal qui est appliqué à votre magnétoscope via l'entrée d'antenne ou AV et fourni directement au téléviseur sans être enregistré) se conforme au système couleur original. Le commutateur SELECT SORTIE n'a pas d'effet sur le signal de sortie E-E.
- Votre magnétoscope ne peut pas enregistrer ni lire en MESECAM. Plus particulièrement, l'enregistrement d'émissions SECAM autres que SECAM L, ou la copie et la lecture de bandes d'émissions SECAM qui ont été faites sur un magnétoscope PAL, n'est pas possible.

Le tableau ci-contre résume les informations précédentes. Se reporter à ce tableau si nécessaire, si vous avez à résoudre des problèmes de compatibilité bande ou TV, par exemple.

| Signal d'entrée | Mode d'enregistrement | | Signal enregistré sur la bande | Signal de sortie | Signal de sortie (mode EE) |
|---|---|---|---|---|---|
| SECAM | VHS | VN | SECAM | SECAM | SECAM |
| | | LD | PAL [1)] | PAL/SECAM [2)] | |
| | S-VHS | VN | S-VHS | PAL/SECAM | |
| | | LD | S-VHS | PAL/SECAM | |
| PAL | VHS | VN | PAL | PAL/SECAM | PAL |
| | | LD | PAL | PAL/SECAM | |
| | S-VHS | VN | S-VHS | PAL/SECAM | |
| | | LD | S-VHS | PAL/SECAM | |

**Remarque 1:** Quand un signal SECAM est enregistré dans le mode VHS LD, le signal enregistré est PAL. Cette bande ne peut pas être lue sur une machine SECAM.
**Remarque 2:** Votre magnétoscope peut lire des bandes préenregistrées VHS SECAM LD. Avec ces bandes, le signal de sortie est seulement SECAM.

# Numéros des canaux réels et indications des canaux TV correspondant

Les numéros des "canaux réels" affichés sur le magnétoscope peuvent ne pas correspondre aux indications des canaux dans votre région.

**FRANCE (Système d'émission: L)**
**Canaux VHF**

| Affichage | CF | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Canal correspondant | | 2(B) | 3(C1) | 4(C) | 5(1) | 6(2) | 7(3) | 8(4) | 9(5) | 10(6) |

**Canaux UHF:** Tous les numéros des canaux réels indiqués correspondent aux numéros des canaux TV.

**Réseau câblé SYSTEME 1 (pas de 12 MHz)**

| Affichage | CF | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canal correspondant | | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q |

**Réseau câblé SYSTEME 2 (pas de 10,5 MHz):** Tous les numéros des canaux réels indiqués correspondent aux numéros des canaux TV.

**ITALIE (Système d'émission: B/G)**

| Affichage | Ch | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Canal correspondant | | A | B | C | D | E | F | G | H | H1 | H2 |

**BELGIQUE (Système d'émission: B/G)**

| Affichage | CC | 01 | 02 . . . . . . 10 | 11 . . . . . . 20 |
|---|---|---|---|---|
| Canal correspondant | | 80(M1) | 81(M2) . . . 89(M10) | 90(U1) . . . 99(U10) |

**SUISSE (Système d'émission: B/G)**

| Affichage | CC | 75 | 76 | 77 |
|---|---|---|---|---|
| Canal correspondant | | X | Y | Z |

# SECTION 1
# DISASSEMBLY AND MECHANISM ADJUSTMENTS

## 1.1 DISASSEMBLY

### 1.1.1 Top cover

1. Set for the EJECT (Stop) mode and disconnect VCR from AC power.
2. Take out four screws Ⓐ . To remove the top cover, slide it in the direction of the arrow and lift it away.

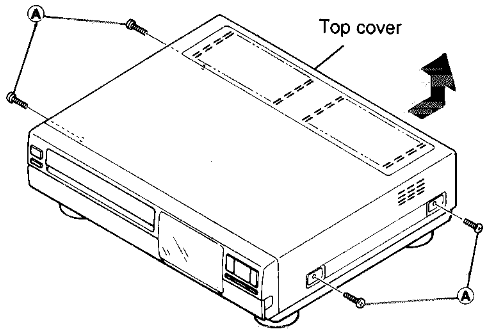


Fig. 1-1-1

### 1.1.2 Front Panel assembly

1. Remove the top cover.
2. Carefully disengage three tabs ⓐ of the front panel assembly from the upper side of the chassis.
3. Refer to Fig. 1-1-2 and pull the front panel assembly forward you to disengage three tabs ⓑ of the front panel assembly from the bottom side of the chassis, then remove the front panel assembly.

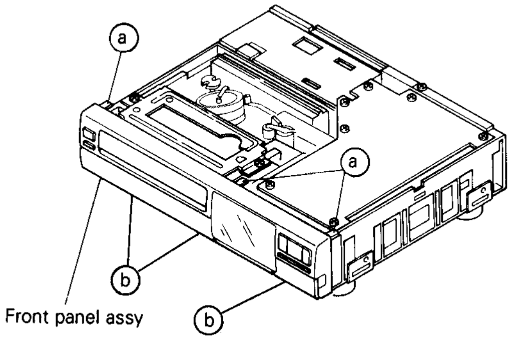


Fig. 1-1-2

### 1.1.3 Bottom cover

1. Remove the top cover.
2. Take out twelve screws Ⓑ from the bottom of the chassis.

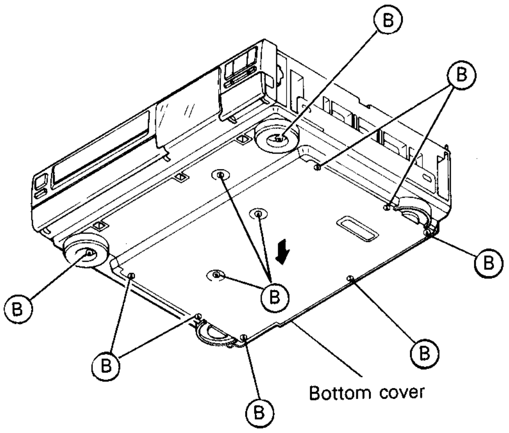


Fig. 1-1-3

### 1.1.4 VIDEO INTERFACE board assembly

1. Remove the top cover.
2. Take out eight screws Ⓑ and four screws Ⓒ from main board assembly.
3. Remove the video interface board assembly in the upward direction.

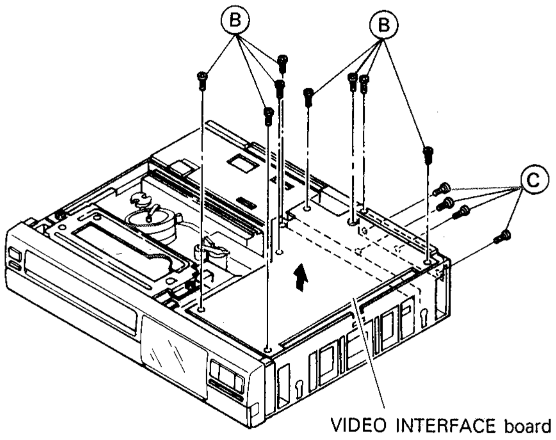


Fig. 1-1-4

### 1.1.5 SW. REGULATOR board assembly

1. Remove the top cover.
2. Refer to section 1.1.4 and remove the VIDEO INTERFACE board assy.
3. Take out two screws Ⓑ from the SW. REGULATOR board assy.
4. Remove the SW. REGULATOR board assy in the upward direction.

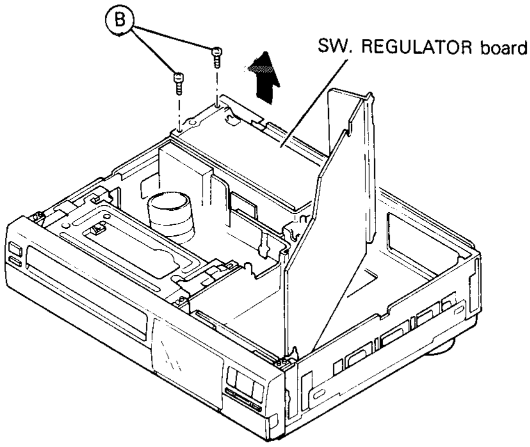


**Fig. 1-1-5**

### 1.1.6 REC board assembly

1. Remove the top cover.
2. Take out two screws Ⓓ .
3. Disconnect connectors from the REC board assy and remove the REC board assy in the upward direction.

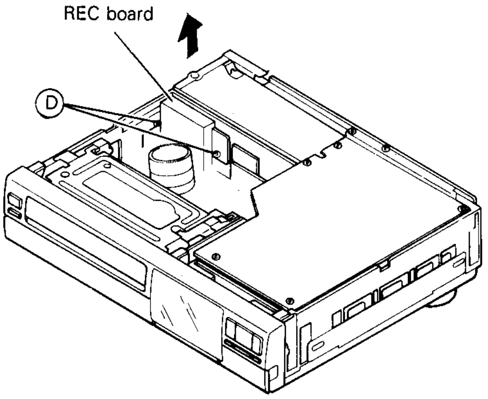


**Fig. 1-1-6**

### 1.1.7 TIMER/DISPLAY/SW board assembly

1. Remove the top cover and front panel.
2. Disengage five tabs ⓐ of the upper side of the chassis, then remove the TIMER/DISPLAY/SW board assy.

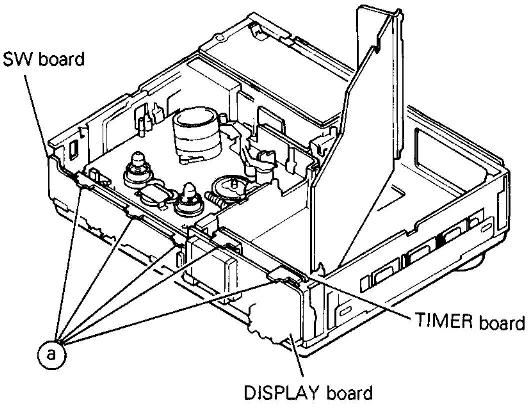


**Fig. 1-1-7**

### 1.1.8 SECAM PROCESS board assembly

1. Remove the top cover and bottom cover.
2. Take out three screws Ⓔ and three screws Ⓕ.
3. Remove the terminal board and SECAM PROCESS board assy.

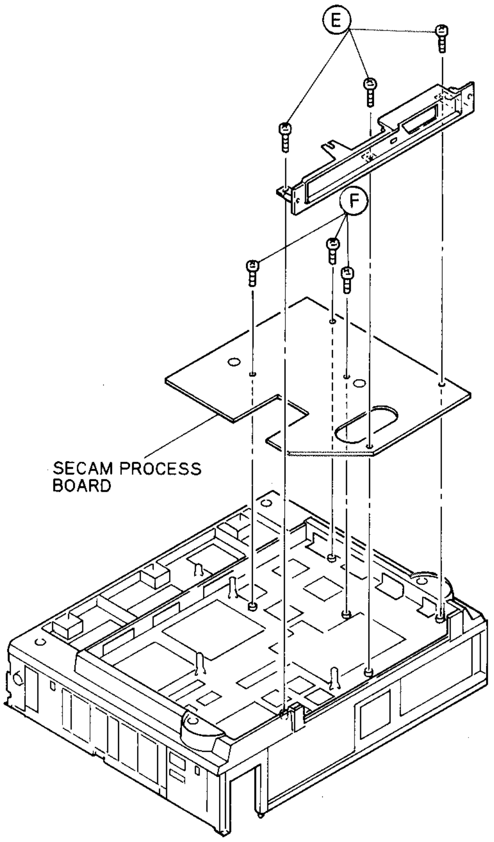


**Fig. 1-1-8**

### 1.1.9 Cassette housing

1. Remove the top cover and front cover.
2. Take out four screws Ⓖ that secure the cassette housing.
3. Remove the cassette housing in the upward direction.

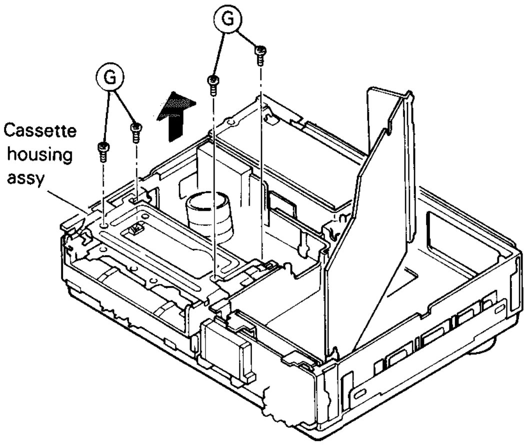

Ⓖ
Ⓖ
Cassette housing assy

Fig. 1-1-9

### 1.1.10 Cassette housing installation

1. On the main deck, observe the positional relationships of the parts indicated in Fig. 1-1-10.
   If necessary, turn the loading motor by hand to obtain these positions.

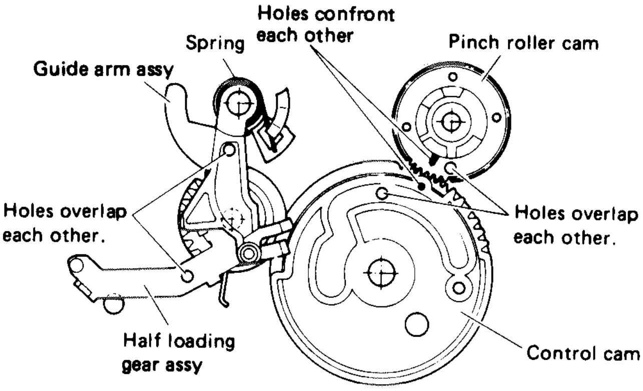

Holes confront each other
Spring
Pinch roller cam
Guide arm assy
Holes overlap each other.
Holes overlap each other.
Half loading gear assy
Control cam

Fig. 1-1-10

2. Confirm that the clutch is engaged.
   If necessary, press the lever indicated by the arrow to where the clutch is locked.

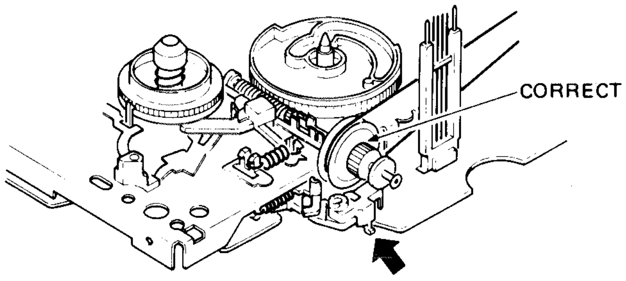


Fig. 1-1-11

3. Check that the cassette housing is in the eject state (internal holder of the cassette housing is locked in raised position).
   Set the cassette housing into place and secure with four screws.
4. Install the front panel as shown in Fig. 1-1-12 and reengage the tabs. Supply power and use a spare cassette to check for normal loading and eject operations.

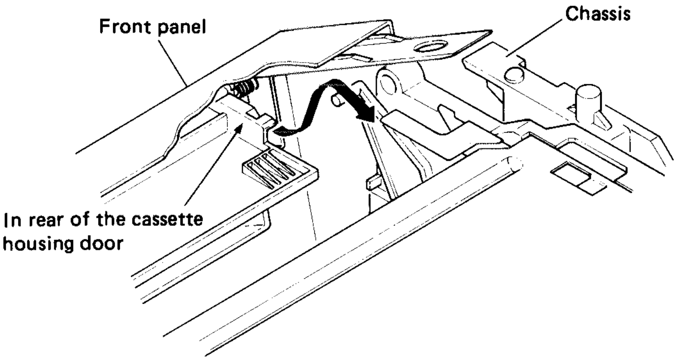

Front panel
Chassis
In rear of the cassette housing door

Fig. 1-1-12

5. Disconnect VCR from power, then reinstall the main board assembly and top cover.

### 1.1.11 Main-deck

1. Remove the top cover, front panel assembly and cassette housing assembly.
2. Take out three screws Ⓗ from the main-deck assembly.
3. Remove the main-deck assembly in the upward direction.

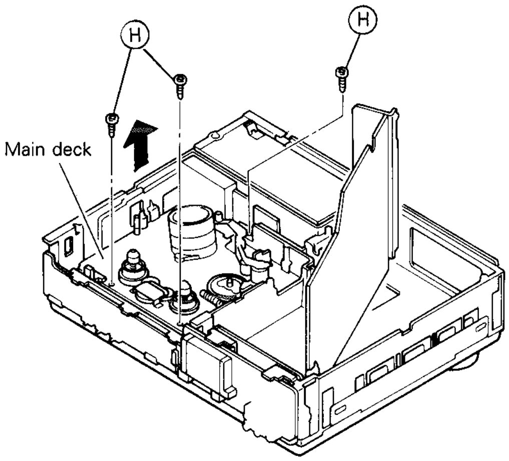


Fig. 1-1-13

## 1.2 MECHANISM ADJUSTMENTS

### 1.2.1 Precautions

1. Disconnect mainframe from AC power before soldering.
2. Avoid imparting stress to wires when disengaging connectors.
3. Determine and correct the cause of difficulty before proceeding to adjustments. Do not disturb settings unnecessarily.
4. Use care not to damage tabs, claws, etc. during repairs.
5. Install the cassette housing assembly only when the mechanism is in the Eject or Stop mode position. In the Eject mode, the internal holder of the housing is fully raised. This is fully lowered in the Stop mode.
6. When installing the front panel assembly, be sure to engage the housing door with the door lever of the cassette housing assembly. If this step is omitted, the door will not open at Eject and the cassette cannot be removed.

### 1.2.2 Check without cassette housing

Mechanism operations can be observed easily by removing the cassette housing assembly. Note the following.

1. Disable the photo transistor sensor (END SENSOR) on the main-deck by applying an opaque cover.
2. Connect pins 2 and 3 of A/S/M board connector CN601.
3. Select the desired modes with the operation buttons. However, notice that without tape, setting for the reverse direction modes produces the Stop mode after a few seconds due to absence of the reel sensor output.

### 1.2.3 Manually removing cassette tape

In event of electrical system failure that prevents the tape from being unloaded, the tape can be removed manually by the following procedure. Refer to Figs. 1-3-1, 1-3-2 and 1-3-3.

1. Disconnect power cord from AC outlet.
2. Turn the loading motor by hand so that the control cam rotates clockwise. This retracts the pole base assembly to the unloading position.
3. Continue turning to where the guide arm and half loading gear assemblies shift to beneath the cassette.
4. Turn the clutch assembly at the rear of the deck to absorb slack tape within the cassette.
5. Again turn the loading motor in the same direction to raise the cassette and remove it.

### 1.2.4 Test equipment

The following special tools and fixtures are required for mechanism adjustment.

1. Alignment tapes : MH-2 (SP) and MH-2L (LP)
   Stairstep signal is employed for interchangeability checks and adjustments.
2. Torque gauge : PUJ48075-2
   Measures tape take-up torque.
3. Back tension cassette gauge : PUJ48076-2
   Measures tape tension at the supply side.
4. A/C head positioning tool : PUJ47351-2
   Shifts the head base for adjusting the control head position.
5. Roller driver : PTU94002
   Turns the guide roller for adjusting FM linearity.
6. Presetting unit : PTU94008
   Use for LP auto tracking preset adjustment.

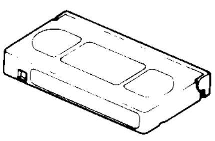
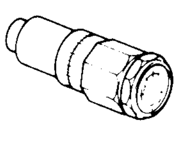
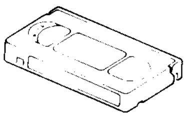
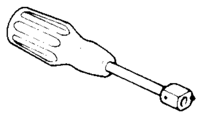
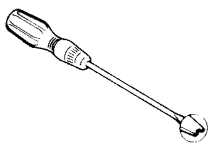
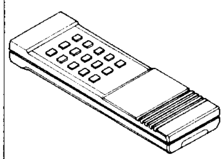
| 1<br>Alignment tape | 2<br>Torque gauge | 3<br>Back tension cassette gauge | 4<br>A/C head positioning tool | 5<br>Roller driver | 6<br>Presetting unit |
|---|---|---|---|---|---|
|  |  |  |  |  |  |

**Fig. 1-2-1** Test equipment

## 1.3 MAIN MECHANISM PARTS

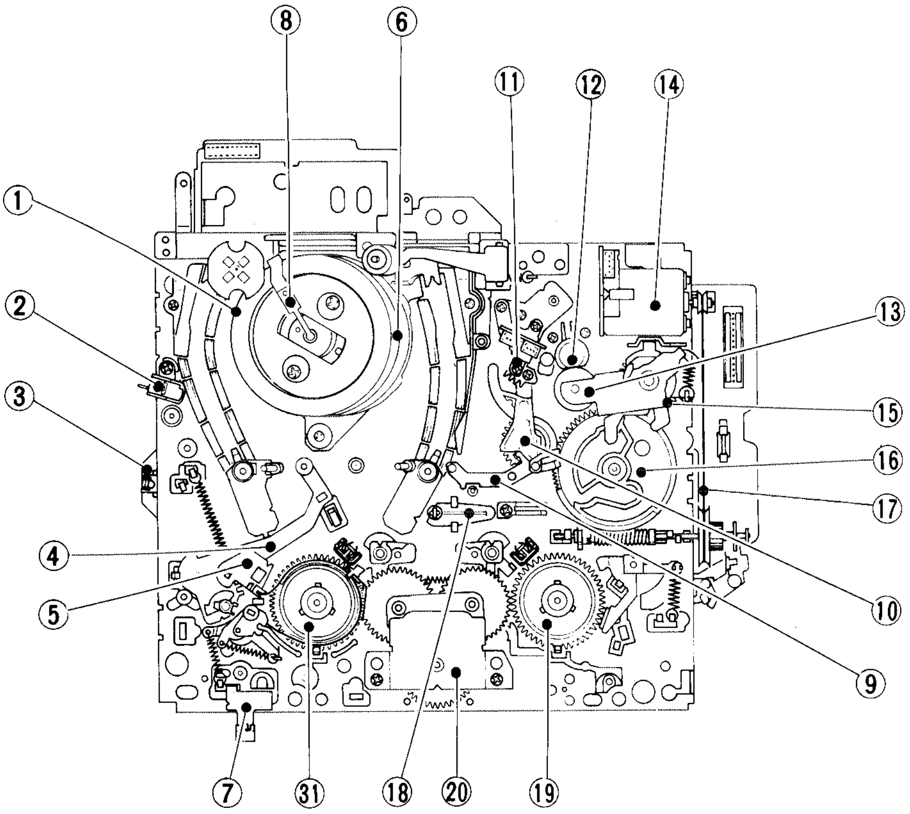

⑧
⑥
⑪
⑫
⑭
①
②
⑬
③
⑮
⑯
⑰
④
⑩
⑤
⑨
⑦
(31)
⑱
⑳
⑲

**Fig. 1-3-1** Top view of main-deck

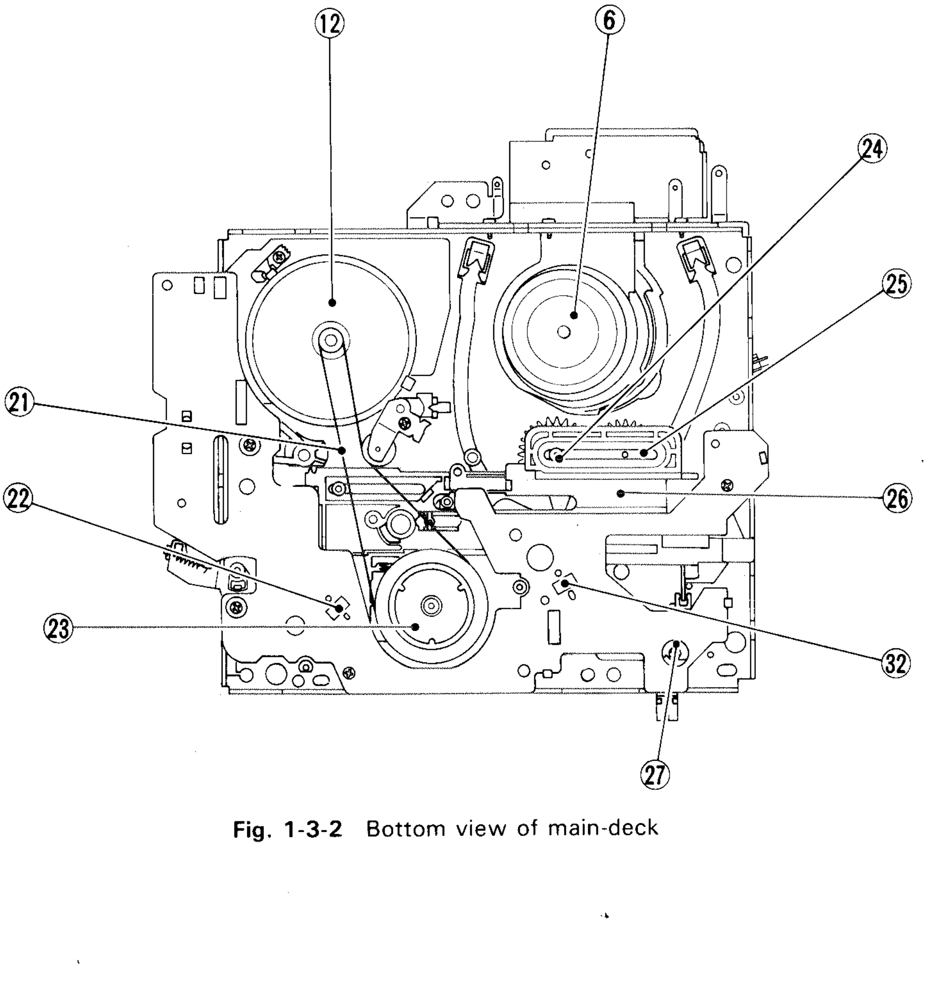

⑫
⑥
㉔
㉕
㉑
㉖
㉒
㉓
(32)
㉗

**Fig. 1-3-2** Bottom view of main-deck

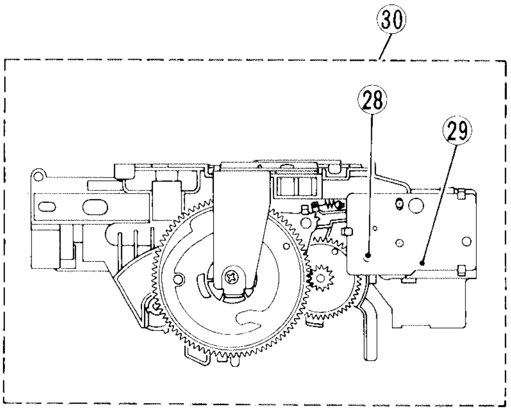


**Fig. 1-3-3** Side view of cassette housing

### A. Cleaning

Periodic cleaning of the tape transport system is desirable, but ordinarily not feasible in practice. Therefore, perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads, tape guides and brushes can detract from playback picture quality and in extreme cases, even damage the tape. For cleaning, use a fine-mesh cotton cloth (about the texture of a white dress-shirt) moistened in alcohol.

- To clean the video heads, press the moistened cloth gently against the upper drum with fingertip and turn the drum by hand.
- Do not use a vertical stroke, as this may damage the heads.

### B. Lubrication

Oil and grease do not normally require periodic replenshing. Apply only when replacing lubricated parts (also clean and replace lubrication of mating parts if soiled).

For parts and points to apply oil and grease, refer to the exploded views of the mechanism assembly.

Before oiling, clean with alcohol.
Apply one or two drops of oil. Avoid excess oil.

1. Table 1-1 indicates the oil and grease used in this set. Use these or recommended locally available equivalents.

| No. | Parts No. | Category |
|---|---|---|
| 1 | COSMO-HV56 | Oil |
| 2 | KANTO-G-31KAV | Grease |

**Table 1-1**

2. Grease is not required for a replacement cassette housing assembly, as this has been applied at the factory.

**Notes:** ***Stir grease that has been stored for an extended period.***

### C. Main mechanical parts

See Figs. 1-3-1, 1-3-2 and 1-3-3.

| No. | Symbol | Parts Name | See Section |
|---|---|---|---|
| 1 | M32A | Upper drum assy | |
| 2 | M44 | Full erase head | |
| 3 | 51Q1 | End sensor | |
| 4 | M41 | Tension arm assy | 1.5.4 |
| 5 | M42 | Tension band assy | 1.5.4 |
| 6 | M32C | Lower drum motor assy | 1.5.2 |
| 7 | M461 | REC safety switch | |
| 8 | M32D | Brush assy | |
| 9 | M449 | Half loading gear assy | 1.5.5 |
| 10 | M447 | Guide arm assy | 1.5.5 |
| 11 | M48 | A/C head | 1.5.3 |
| 12 | M422 | Capstan motor | |
| 13 | M442 | Pinch roller arm assy | |
| 14 | M434 | Mode motor assy | |
| 15 | M446 | Pinch roller cam | 1.5.5 |
| 16 | M438 | Control cam | 1.5.5 |
| 17 | M437 | Loading belt | |
| 18 | M460 | LED holder (D1) | |
| 19 | M430 | Reel disk (take-up) | |
| 20 | M424 | Idler gear assy | |
| 21 | M429 | Timing belt | |
| 22 | 51PS1 | Take up reel sensor (PS1) | |
| 23 | M426 | Clutch assy | 1.5.6 |
| 24 | M433 | Take up loading arm assy | 1.5.7 |
| 25 | M432 | Supply loading arm assy | 1.5.7 |
| 26 | M439 | Plate assy | 1.5.7 |
| 27 | M462 | Slide encorder (S3) | |
| 28 | 56PS3 | Cassette sensor (PS3) | |
| 29 | 56Q2 | Start sensor (Q2) | |
| 30 | M35 | Cassette housing assy | |
| 31 | M470 | Reel disk (supply) | |
| 32 | 51PS2 | Supply reel sensor (PS2) | |

- Symbol interpretation example

M32A
M — Exploded view symbol
32A — Ref. No.

56 Q2
56 — Board No.
Q2 — Ref. No.

## 1.4 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear in the course of usage. Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance. Worn parts must also be replaced when required.

### 1.4.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought in for service and the maintenance work performed if necessary.

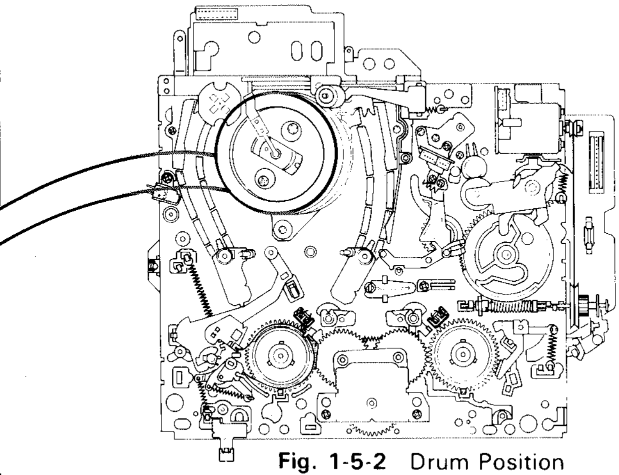
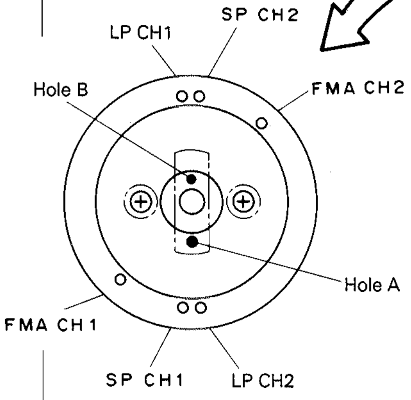
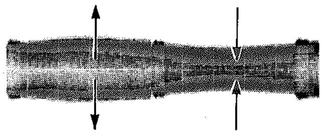
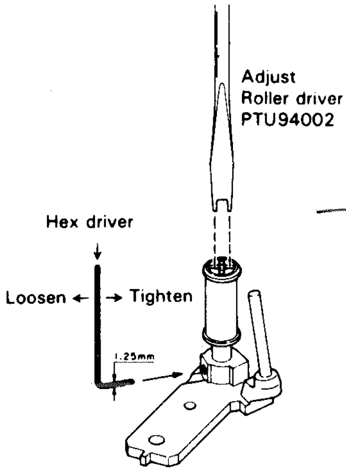
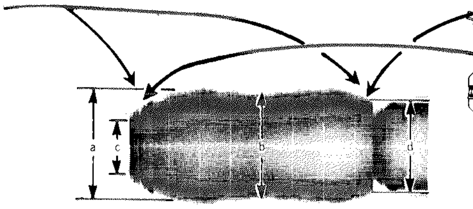
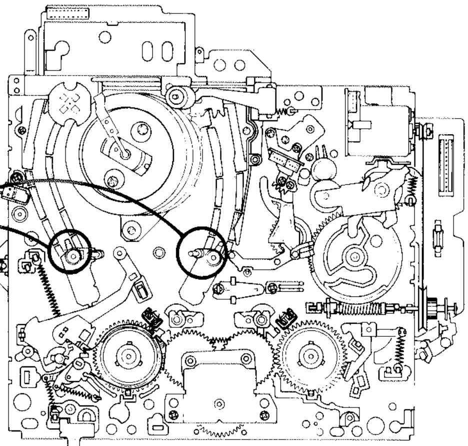
Also note that rubber parts may deform in time, even if the set is not used.

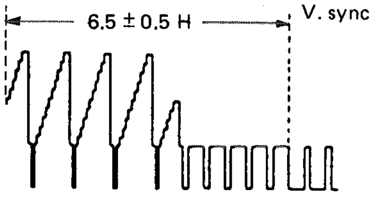
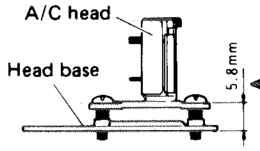
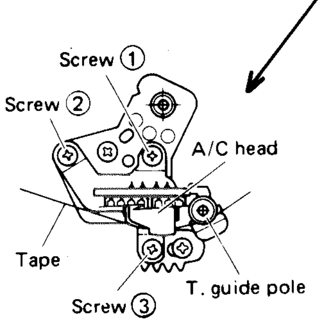
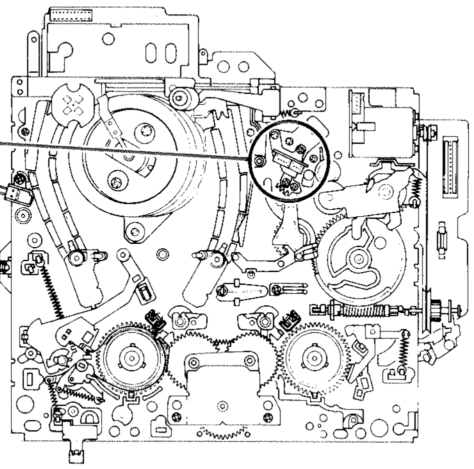
| System | No. | Parts Name | Symbol No. | Periodic servicing schedule (operation hours) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 3000 |
| Tape Transport system | 1 | Upper drum assy | M32A | ★ | ★ | ☆ | ● | ★ | ★ | ☆ | ● | ● |
| | 11 | A/C head | M48 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ☆ | ● |
| | 13 | Pinch roller arm assy | M442 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ● |
| | 2 | Full erase head | M44 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ● |
| | 4 | Tension arm assy | M41 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ |
| | 6 | Lower drum motor assy | M32C | | | | | | | | | |
| | 12 | Capstan (shaft) motor | M422 | | | | | | | | | |
| | 9 | Half loading gear assy | M449 | | | | | | | | | |
| | 10 | Guide arm assy | M447 | | | | | | | | | |
| Drive system | 12 | Capstan motor | M422 | | | | | | | | ● | |
| | 17 | Loading Belt | M437 | | | | ○ | | | | ● | ○ |
| | 21 | Timing Belt | M429 | | | | ○ | | | | ● | ○ |
| | 19 | Take-up reel disk | M430 | | | | △ | | | | △ | ● |
| | 31 | Supply reel disk | M470 | | | | △ | | | | △ | ● |
| | 23 | Clutch unit | M426 | | | | | | ○ | | ○ | ○ |
| | 14 | Mode motor assy | M434 | | | | | | | | | ● |
| Others | 5 | Tension band | M42 | | | | ○ | | | | ○ | ○ |
| | 8 | Brush | M32D | | | | ○ | | | | ○ | ○ |

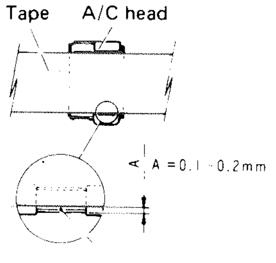
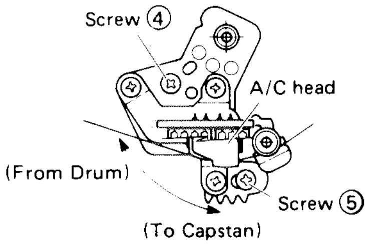
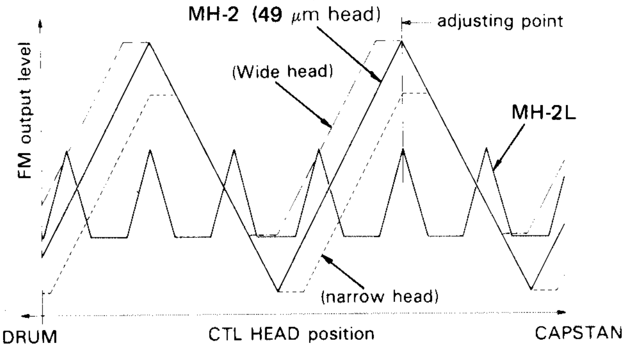
★ : Cleaning
☆ : Cleaning (or Replacement if necessary)
△ : Lubrication
▲ : Lubrication (or Replacement if necessary)
● : Replacement
○ : Inspection (or Replacement if necessary)

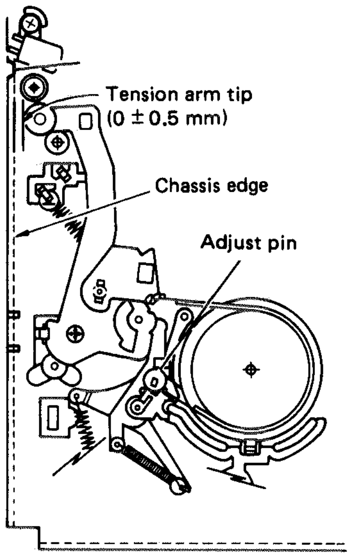
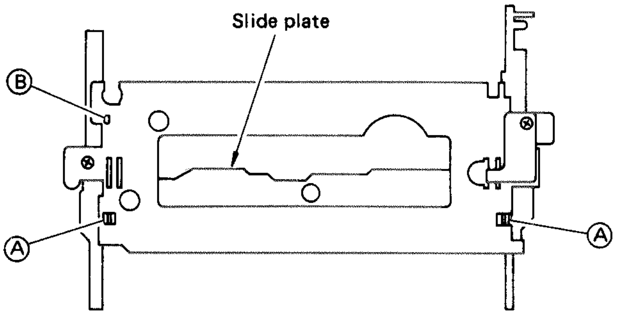
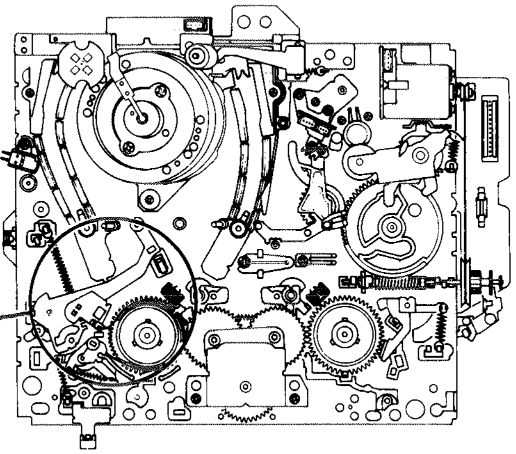
**Table 1-4-1** Approximate maintenance schedule

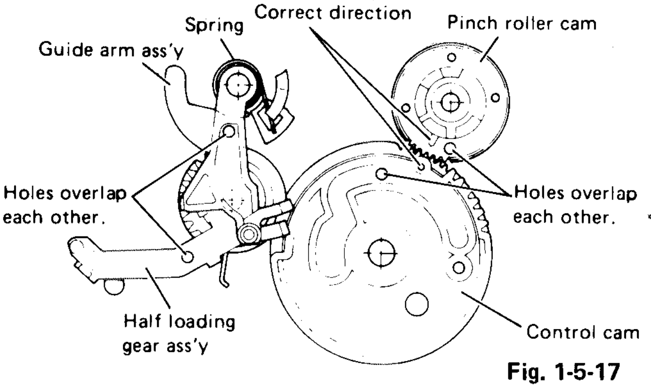
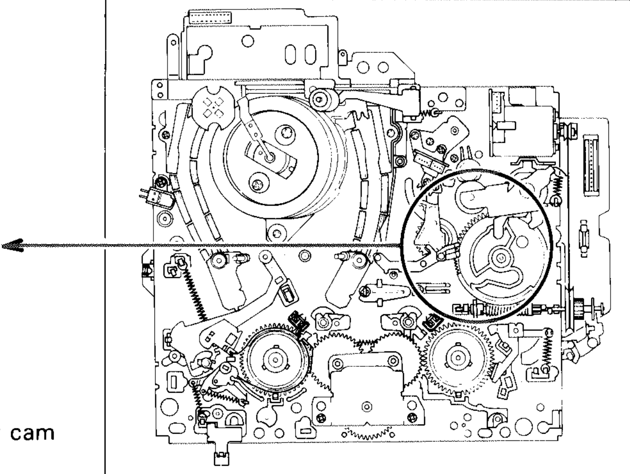
## 1.5 MAIN PARTS REMOVAL AND REPLACEMENT

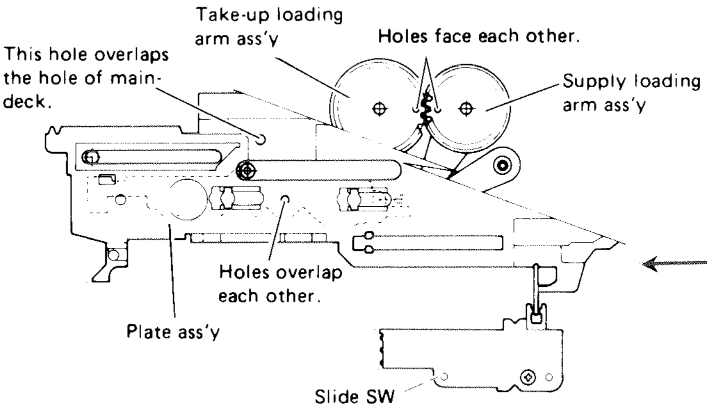
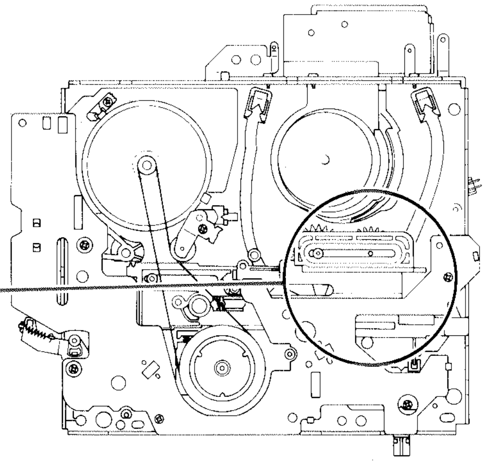
| No. | Item | Checkpoints | Adjustment and Checks |
|---|---|---|---|
| 1 | Upper drum assembly<br>• Symptoms: FM signal absent, intermittent or weak on one channel; large difference in channel output levels<br>• Cause: Worn or damaged video heads, poor response, etc. | <br>**Fig. 1-5-2** Drum Position | |
| | <br> LP CH1<br>SP CH2<br>Hole B<br>FMA CH2<br>Hole A<br>FMA CH1<br>SP CH1<br>LP CH2<br>**Fig. 1-5-1**<br>DRUM TOP VIEW | Mounting direction<br>See Fig. 1-5-1.<br>(Symptom: no picture) | After replacing, observe that upper drum hole A is opposite the motor axis from lower drum hole B. |
| | | Axis wobble<br>See Fig. 1-5-2.<br>(Symptom: jitter, poor FM linearity)<br>PB FM: VIDEO UNIT board TP406<br>FF: Video I board TP411 | Record and playback in LP mode.<br>Confirm absence of large difference between channels. (Fig. 1-5-3)<br><br>**Fig. 1-5-3** Axis wobble |
| | <br> Adjust<br>Roller driver<br>PTU94002<br>Hex driver<br>Loosen<br>Tighten<br>1.25mm<br>**Fig. 1-5-4** S.T. Pole base | FM linearity check<br>See Fig. 1-5-5.<br>(Symptom: vertical sync absent, picture noise)<br>PB FM: Video UNIT board TP406<br>FF: Video I board TP411<br><br> <br>**Fig. 1-5-5** FM linearity<br>$\frac{b}{a} \geqq 0.7, \frac{c}{a} \geqq 0.65, \frac{d}{a} \geqq 0.65$ | <br>**Fig. 1-5-6** S.T. Pole base position<br>1) Play stairstep signal of the MH-2 Alignment Tape. Confirm absence of obvious FM waveform loss and that operating the Tracking yields the optimum point.<br>2) Refer to Fig. 1-5-4, adjust for loss at the left edge (drum entry) of the FM waveform by turning the guide roller of the supply pole base. Similarly, adjust for loss at the right edge (drum exit) by turning the guide roller of the take-up pole base.<br>**Note:** ***If FM loss occurs on both channels and cannot be corrected by adjusting the guide rollers, the lower drum needs replacement.*** |

| No. | Item | Checkpoints | Adjustment and Checks |
|---|---|---|---|
| | PB switching point<br>•Symptom: switching noise at picture bottom.<br> <br>**Fig. 1-5-7**<br>PB Switching Point | VIDEO OUT<br>or<br>TP110 (Video I board) | 1) Connect VCR to AC. Turn power on.<br>2) Connect an oscilloscope to VIDEO OUT or TP110.<br>3) Insert the MH-2 alignment tape to the cassette housing. Play back the stairstep segment of MH-2 alignment tape.<br>4) Trigger the oscilloscope externally (– slope) with the signal from TP411 (DRUM FF) of the Video I board.<br>5) Adjust R427 to position the trigger point 6.5 H ±0.5 H from V. sync as shown in Fig. 1-5-7. |
| 2 | Lower drum assembly<br>•Symptoms: Poor FM linearity, noisy rotation, jitter<br>•Cause: Lead and bearing wear | Check FM linearity and switching point. | See above upper drum assembly items. |
| | | Check control head phase (X value)<br>Symptom: tracking error<br>PB FM: VIDEO UNIT board TP406<br>FF: VIDEO I board TP411 | 1) Play stairstep signals of MH-2 and MH-2L Alignment Tapes. Engage the Tracking Preset mode by pressing the + and – buttons simultaneously in the onscreen mode. Confirm that the same maximum FM waveform level is obtained as when the tracking is adjusted manually.<br>2) Refer to the A/C head adjustments. |
| 3 | A/C head<br> <br>**Fig. 1-5-8**<br>Temporary height<br> Screw ①<br>Screw ②<br>A/C head<br>Tape<br>T. guide pole<br>Screw ③<br>**Fig. 1-5-9**<br>Inclination/Azimuth/ Height adj. | | <br>**Fig. 1-5-10** A/C HEAD position |
| | | Temporarily set height as indicated in Fig. 1-5-8. | Set the height as indicated in Fig. 1-5-8 to facilitate tape transport checks and adjustments. |
| | | Tilt (forward inclination)<br>See Fig. 1-5-9.<br>(Symptom: audio level varies greatly.) | 1) Run tape, turn screw ① counterclockwise to where slight curling of the tape occurs at the lower flange of the take-up guide roller.<br>2) Then slowly turn the screw clockwise to where the curling ceases. |
| | | Azimuth<br>See Fig. 1-5-9.<br>(Symptoms: audio low level or noisy)<br>Audio output: AUDIO OUT | 1) Set front panel AUDIO MONITOR selector to Normal and play stairstep signal (with audio 6 kHz) of the MH-2 Alignment Tape. Observe audio output signal with oscilloscope.<br>2) Turn screw ② and adjust for maximum audio output level. |

| No. | Item | Checkpoints | Adjustment and Checks |
|---|---|---|---|
| | <br> <br>**Fig. 1-5-11**<br>Height Adj | Height<br>See Figs. 1-5-9 and 1-5-11.<br>(Symptom: low audio and control signal levels) | 1) Run tape and observe the control head area.<br>2) Turn screws ①, ② and ③ by small and equal amounts until 0.1 to 0.2 mm of the head core bottom can be seen.<br>**Note:** *If difficult to observe, play stairstep signal of MH-2 Alignment Tape and adjust for maximum audio output and control pulse level.* |
| | | FM linearity | Refer to upper drum assembly items.<br>If adjustment is major, again check the azimuth. |
| | <br> Screw ④<br>A/C head<br>(From Drum)<br>Screw ⑤<br>(To Capstan)<br>**Fig. 1-5-12** CTL head phase<br><br> <br>**Fig. 1-5-13** CTL head phase<br>Note: *Trigger the oscilloscope externally signal from TP411 (DRUM FF). Use (+) trigger for MH-2 and MH-2L alignment tape. Narrow head is employed for this model.* | Control head phase<br>See Fig. 1-5-12<br>PB FM: Video UNIT board TP406<br>FF: Video I board TP411 | 1) Play stairstep signal of MH-2 Alignment Tape and observe the FM waveform. Set for Tracking Preset by pressing the + and – buttons simultaneously in the onscreen mode.<br>2) Loosen screws ④ and⑤. Set the A/C head positioning tool on screw ④, with the stud inserted into the nearby oblong hole.<br>3) Turn the tool first to position the A/C head fully toward the capstan. Then gradually return it toward the drum and stop at the position of maximum FM waveform output level as shown in Fig. 1-5-13.<br>4) Tighten screw ⑤ . Remove the tool and tighten screw ④.<br>5) Play stairstep signal of MH-2L Alignment Tape and confirm maximum FM waveform output level as shown in Fig. 1-5-13.<br>6) If not maximum, slightly loosen screws ④ and ⑤. Use the tool and adjust the head position for the nearest maximum point. Then tighten screws ④ and ⑤. |
| | | LP auto tracking adjustment | 1) Terminate the video output at 75 ohms with a monitor-TV and connect oscilloscope to PB FM (TP406).<br>2) Set MH-2L Alignment Tape into the cassette housing and play the stairstep signal.<br>3) Confirm that the A/V digital tracking LED changes from flashing to lighted.<br>4) Press button "D" of the preset unit (PTU 94008) to extinguish the A/V digital tracking LED.<br>5) Again press button "D" to enter the LP interchangeability adjust mode. Confirm that the A/V digital tracking LED changes from flashing to extinguished. Press the stop button.<br>**Note:** *If the Alignment Tape ejects automatically, repeat the control head phase adjustment.* |

| No. | Item | Checkpoints | Adjustment and Checks |
|---|---|---|---|
| 4 | **Tension arm assembly**<br>**Tension band assembly**<br> Tension arm tip<br>(0 ± 0.5 mm)<br>Chassis edge<br>Adjust pin<br>**Fig. 1-5-14**<br>Tension arm assy<br> <br>**Fig. 1-5-16** Cassette housing | Tension pole position<br>See Fig. 1-5-14.<br>(Symptom: poor FM waveform response) | <br>**Fig. 1-5-15** Tension arm position<br>1) Remove video cassette tape and set for the playback mode as following steps.<br>2) Disconnect VCR from AC. Slightly rotates the loading motor counterclockwise by hand, then press the lock level portion Ⓐ of the cassette housing by hand as shown in Fig. 1-5-16.<br>3) Move the raised portion of the cassette housing slide plate to fully forward by hand with loading motor. At this time, again press the lock level portion Ⓑ of the cassette housing slide plate to lower the cassette housing (internal holder of the cassette housing is locked in lowered position).<br>4) Cover the cassette LED with opaque material (insulated tape with black).<br>5) Connect VCR to AC. Press the power button on the Front panel and set for the playback mode.<br>6) Turn the eccentric adjust pin to align the edge of the chassis with the tension arm tip as shown in Fig. 1-5-14. |
| | | Back tension<br>(Symptom: skew) | 1) When the tension pole position is correctly adjusted, the back tension will assume the correct value.<br>2) Use the Back Tension Cassette Gauge and set for the playback mode. Confirm reading of 35 to 48.<br>3) Changing the tension pole position in order to vary the back tension will cause adverse effects elsewhere. |

| No. | Item | Checkpoints | Adjustment and Checks |
|---|---|---|---|
| 5 | Pinch roller cam<br>Control cam<br>Half loading gear assembly<br>Guide arm assembly | <br> Spring<br>Correct direction<br>Pinch roller cam<br>Guide arm ass'y<br>Holes overlap each other.<br>Holes overlap each other.<br>Half loading gear ass'y<br>Control cam<br>**Fig. 1-5-17**<br>Control/Pinch roller cam<br>Important: Do not remove or disturb parts other than those mentioned.<br>See Fig. 1-5-17. | Set mechanism to Eject mode internal holder of the cassette housing is locked in raised) position.<br><br>**Fig. 1-5-18** Control cam position<br>1) When installing the pinch roller cam, overlap the largest hole of the gear portion with the hole of the deck.<br>2) Set the control cam on the deck with the hole of the groove overlapped with the hole of the deck. Observe that the small hole of the control cam and the ridge of the pinch roller cam are aligned. (If the control cam does not fit readily, shift the rear plate assembly within the range of play.)<br>3) Install the half loading gear assembly with the hole overlapped with the hole of the deck. Secure with E-ring.<br>4) Install the guide assembly over the spring and with the hole overlapping that of the deck. Engage the spring correctly. |
| | | Cassette housing assembly | Install the cassette housing assembly with the mechanism in the Eject mode. Also observe that the inner holder of the housing is raised and locked. |
| 6 | Clutch assembly | Take-up torque<br>(Symptom: inadequate take-up torque) | 1) Remove cassette housing and set for playback mode (see Section 1.2).<br>2) Set torque gauge on the take-up reel disk. Gradually relax your grip on the gauge and read the needle indication at the point the gauge begins to rotate with the disk. Confirm indication of 60 to 100. |

| No. | Item | Checkpoints | Adjustment and Checks |
|---|---|---|---|
| 7 | Take-up loading arm assembly<br>Supply loading arm assembly<br>Plate assembly | | **Note:**<br>• ***Set mechanism to the Eject or Stop mode before removing these parts.***<br>• ***The flange of the plastic rivet securing the loading arm assembly and the pole base assembly can be damaged by attempting to remove it directly. Press the loading arm assembly firmly to prevent motion. Then use a narrow-shafted tool to press the rivet from the shaft end to remove it.*** |
| | | Mounting position alignment<br>• Remove the tension arm assembly to facilitate operation.<br>See Fig. 1-5-19. | 1) Set the supply and take-up loading arm assemblies so that the holes of the gear portions are aligned, then secure to the pole base assemblies with rivets.<br>2) Shift the plate assembly and install with the holes of the upper and lower components overlapped. |
| | | Slide switch<br>See Fig. 1-5-19. | Be sure to engage the slide switch slider with the edge of the plate assembly. |
| |   Take-up loading arm ass'y<br>This hole overlaps the hole of main-deck.<br>Holes face each other.<br>Supply loading arm ass'y<br>Holes overlap each other.<br>Plate ass'y<br>Slide SW<br>**Fig. 1-5-19** | | <br>**Fig. 1-5-20**<br>T.S. Loading arm position |

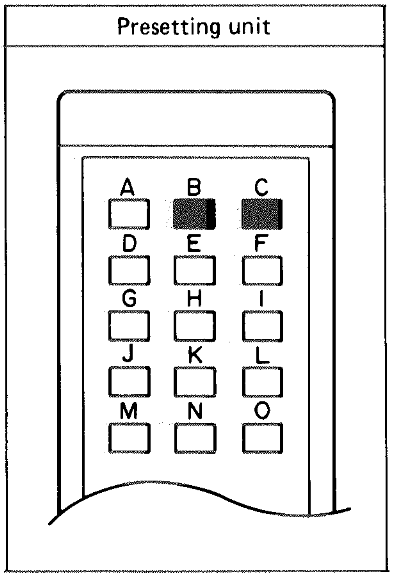
# SECTION 2
# ELECTRICAL ADJUSTMENTS

## 2.1 PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts.
It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

### 2.1.1 Required test equipment

1. Colour television or monitor
2. Oscilloscope: wide-band, dual-trace, triggered delayed sweep
3. Frequency counter
4. Audio oscillator
5. Audio voltmeter
6. Digital voltmeter
7. Signal generator: RF/IF sweep/marker
8. Signal generator: PAL/SECAM color bar, stairstep, video sweeper
9. Signal generator: Audio multiplex TV signal generator
10. Recording tape
11. Alignment tape: MH-2, MH-2L
12. Presetting unit (PTU94008)


Presetting unit
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O

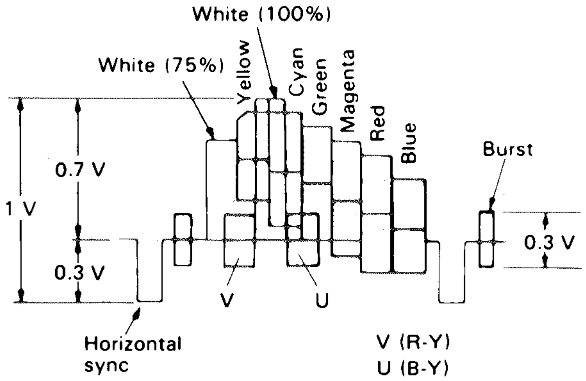

White (100%)
White (75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst
0.7 V
1 V
0.3 V
0.3 V
V
U
Horizontal sync
V (R-Y)
U (B-Y)

**Fig. 2-1-1** Colour bar signal waveform

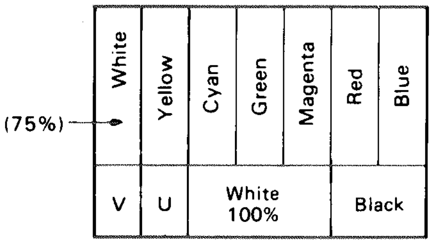

White
Yellow
Cyan
Green
Magenta
Red
Blue
(75%)
V
U
White 100%
Black

**Fig. 2-1-2** Colour bar pattern

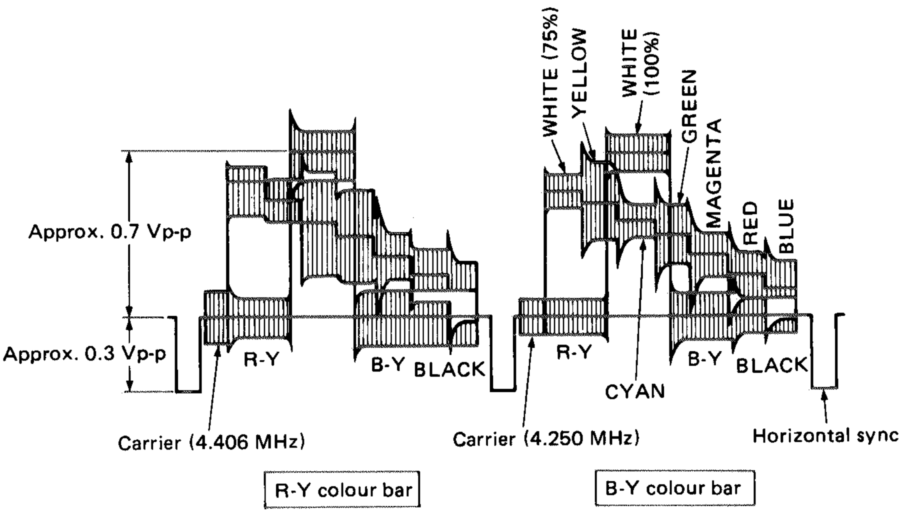

WHITE (75%)
YELLOW
WHITE (100%)
GREEN
MAGENTA
RED
BLUE
Approx. 0.7 Vp-p
Approx. 0.3 Vp-p
R-Y
B-Y
BLACK
R-Y
B-Y
BLACK
CYAN
Carrier (4.406 MHz)
Carrier (4.250 MHz)
Horizontal sync
R-Y colour bar
B-Y colour bar

**Fig. 2-1-3** Colour bar signal waveform

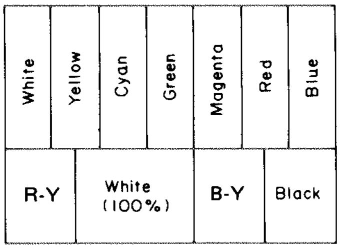

White
Yellow
Cyan
Green
Magenta
Red
Blue
R-Y
White (100%)
B-Y
Black

**Fig. 2-1-4** Colour bar pattern

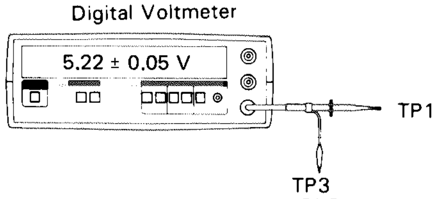
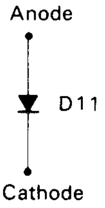
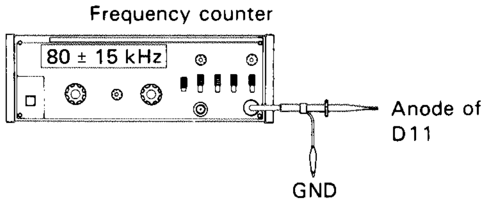
### 2.1.2 Check and adjustment steps

The check and adjustment steps are provided in the following in the form of charts. For clarity, the nomenclature used in the charts is outlined below.

| | |
|---|---|
| **No.** | Checks and adjustments are numbered in the recommended sequence in which they are to be performed. |
| **Item** | Name assigned to the particular check and adjustment step. |
| **Check Point** | Location to which measuring instrument (oscilloscope unless otherwise noted) is to be connected. |
| **Adjustment Parts** | Variable component (resistor, capacitor, etc.) to be adjusted in this step. Dash (—) indicates check only. |
| **Signal & Mode** | • Input signal required to perform adjustment. Dash (—) indicates that special signal is not required.<br>• Equipment operating mode at time of check or adjustment. |
| • Colour bar | Colour bar signal as video input. |
| • Stairstep | Stairstep signal as video input. |
| • 1 kHz | Supply a 1 kHz sinewave as audio input signal. |
| • MH-4 Colour bar | Play colour bar segment of MH-4 alignment tape. |
| • MH-4 Stairstep | Play stairstep segment of MH-4 alignment tape. |
| • MH-4 1 kHz | Play 1 kHz audio signal segment of MH-4 alignment tape. |
| • MH-4 RF sweep | Play RF sweep segment of MH-4 alignment tape. |
| • E-E | Power on and machine in Stop mode. |
| • REC | Recording mode |
| • PB | Playback mode |
| • SEARCH | Search (FWDS and REVS) playback mode |
| • SLOW | Slow motion playback mode |
| • STILL | Pause during playback mode |
| • A DUB | Audio dubbing mode |
| • SP mode | SP recording speed |
| • EP mode | EP recording speed |
| • LP mode | LP recording speed |
| • S-VHS mode | Super-VHS recording mode |
| • VHS mode | VHS recording mode |
| **Description** | This column provides an explanation of the step, notes and adjustment values. |

## 2.2 SWITCHING REGULATOR CIRCUIT

**Note:** *Unless otherwise specified, all test points and adjustments are located on the* [0] [1] *SWITCHING REG board.*

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 1 | 5 V DC OUTPUT | • REC | •TUNER<br>•SP | • TP1 (INPUT)<br>• TP3 (GND) | • R36 (SWD 5V) | 1) Set recording video cassette into the cassette housing and set for the REC mode.<br>2) Connect a digital voltmeter as shown in Fig. 2-2-1.<br>3) Adjust R36 for 5.22 ± 0.05 V.<br> <br>**Fig. 2-2-1** |
| 2 | Confirmation of oscillation | • REC | •TUNER<br>•SP | • Anode of D11<br> | | 1) Set recording video cassette into the cassette housing and set for the REC mode.<br>2) Connect a frequency counter as shown in Fig. 2-2-2.<br>3) Conform that frequency is 80 ± 15 kHz st anode of D11.<br> <br>**Fig. 2-2-2** |

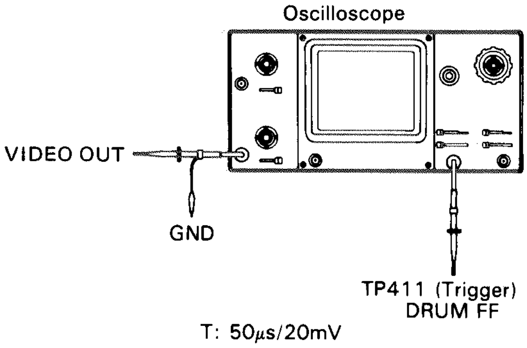
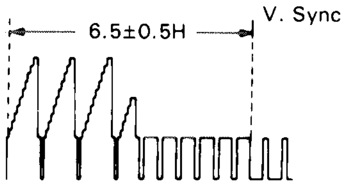
## 2.3 TIMER CIRCUIT

**Note:** *Unless otherwise specified, all test points and adjustments are located on the* [2] [0] *TIMER board.*

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 1 | Clock | •EE | • TUNER | • IC1 pin 16 | • C6 (CLOCK) | **Note:** *For below adjustments use 1 : 1 probe with input capacitance less than 100 pF.*<br>1) Disconnect VCR from AC. Connect a frequency counter between IC1-16 and GND.<br>2) Short IC1 pin 8 to GND, then short the leads of capacitor C3 once in order to reset IC1.<br>3) Connect VCR to AC. All FDP Segments are on.<br>4) Adjust C6 for 2048.000 ± 0.002 Hz (488.2808 to 488.2818 μs). |

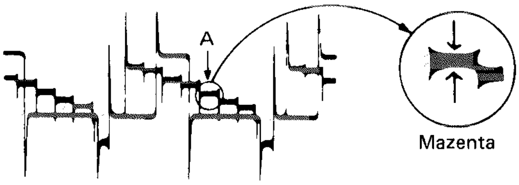
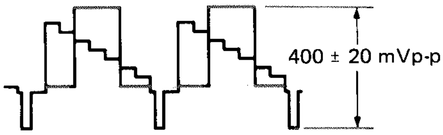
## 2.4 SERVO CIRCUIT

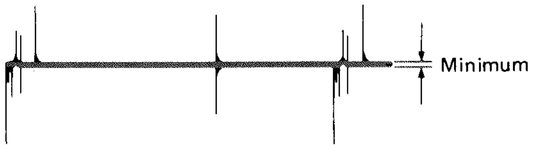
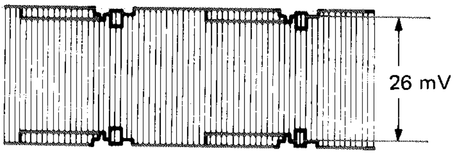
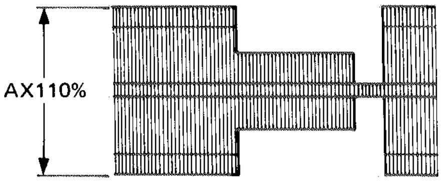
**Notes:** *1. Unless otherwise specified, all test points and adjustments are located on the* [1][0] *VIDEO INTERFACE board.*
*2. T indicates the time and volts/division setting of the oscilloscope (use 10 : 1 probe).*

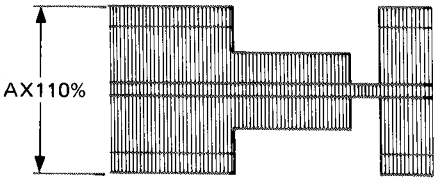
| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 1 | SP PB siwtching point | • PB | • MH-2 stairstep<br>• SP<br>• Trigger slope (−) | • VIDEO OUT | • R427 (SP PB Switching point) | 1) Connect an oscilloscope as shown in Fig. 2-4-1.<br>2) Play back the stairstep segment of MH-2 alignment tape.<br>3) Adjust R427 to position the trigger point 6.5H ± 0.5H from V. sync as shown in Fig. 2-4-2. |
| | | | <br> Oscilloscope<br>VIDEO OUT<br>GND<br>TP411 (Trigger)<br>DRUM FF<br>T: 50μs/20mV<br>**Fig. 2-4-1** | | | <br> <br>**Fig. 2-4-2** PB switching point |
| 2 | SP Slow tracking preset | • REC<br>↓<br>PB (slow 1/6) | • SP | • TV monitor | • Pressetting unit (PTU-94008) | **Note:** *Set VCR to A mode by remote controller.*<br>1) Connect VCR to AC. Turn power on.<br>2) Set recording video cassette into the cassette housing.<br>3) Receive a color broadcast on a VHF-HI channel or supply a color bar signal to VIDEO IN.<br>4) Record a color broadcast or color bar signal in the SP mode.<br>5) Play back recorded signal in the FWD and REV slow mode and set the tracking control of the FRONT panel to the center position by simultaneously pressing the (+) and (−) tracking buttons.<br>6) Observe the display on a monitor-TV and adjust for optimum noise condition (best tracking) by depressing "B (−)" or "C (+)" buttons of presetting unit as required.<br>7) Depress the STOP button on the FRONT panel.<br>8) Confirm that the bar noise is not visible on the monitor in the slow mode. |
| 3 | LP slow tracking preset | • REC<br>↓<br>PB (slow 1/6) | • LP | • TV monitor | • Presetting unit (PTU-94008) | 1) In the same manner as the above SP slow mode. |

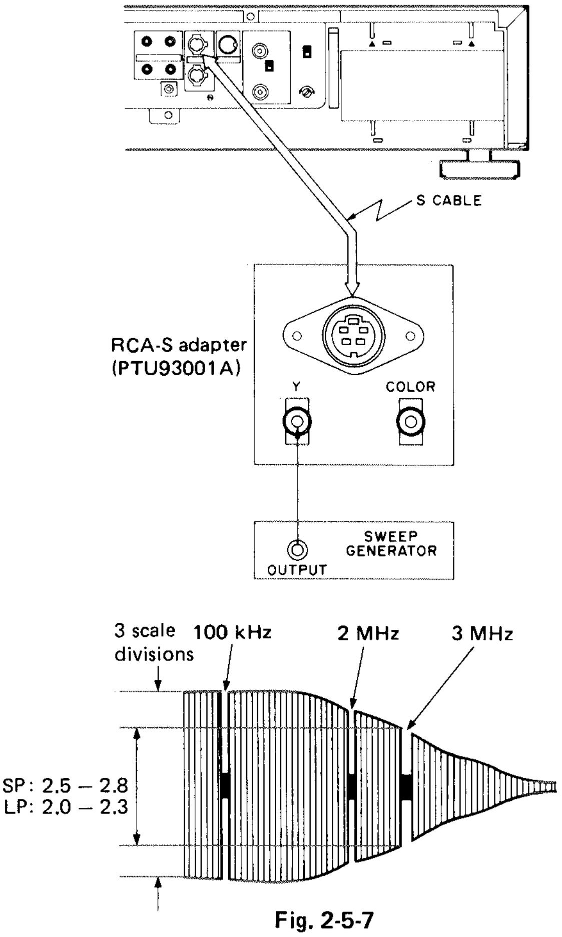
## 2.5 VIDEO CIRCUIT

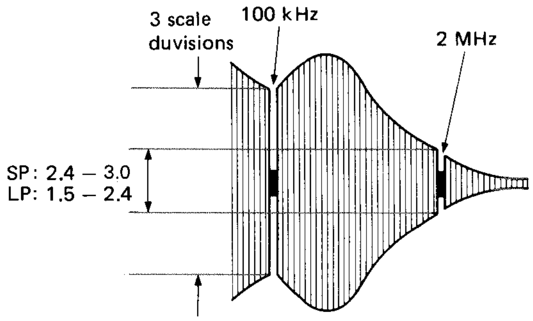
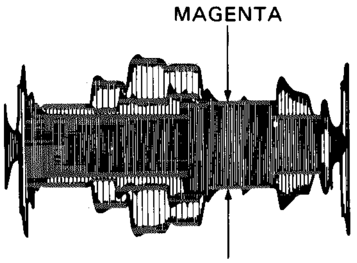
**Note:** *Unless otherwise specified, all test points and adjustments are located on the 1 0 VIDEO INTERFACE board.*

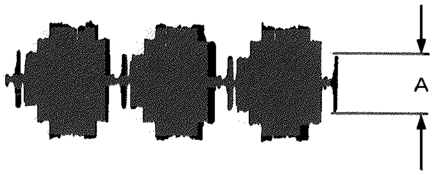
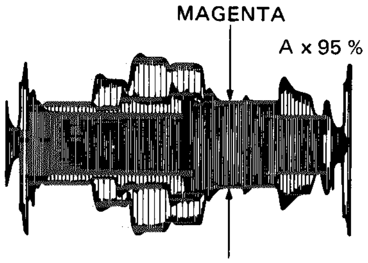
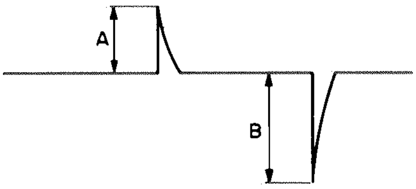
| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 1 | Y comb GAIN | • EE | • Color bar<br>• SP<br>• S-VHS | • TP225<br>• TP226 | • R206 (Y GAIN) | 1) Connect one channel of a dual trace oscilloscope to TP225 and the other channel to TP226.<br>2) Adjust R206 so that TP225 and TP226 become the same level. |
| 2 | 2H delayed color level | • EE | • Color bar<br>• SP<br>• S-VHS | • TP231<br>• TP232 | • R234 (2H DL COLOR LEVEL)<br>• L203 (2H DL COLOR LEVEL -2) | 1) Connect CH-1 of a dual trace oscilloscope to TP231 and CH-2 to TP232.<br>2) Set VOLT/DIV controls of both channels to the same range (e.G., 50 mV).<br>3) Invert CH-2 and use ADD mode.<br>4) Alternately adjust R234 and L203 for minimum level. |
| 3 | Y comb<br><br> <br>Fig. 2-5-1 | • EE | • Color bar<br>• SP<br>• S-VHS | • TP225 | • R215 (Y COMB-1)<br>• R219 (Y COMB-2)<br>• R231 (Y COMB-3) | 1) Connect an oscilloscope to TP225.<br>2) Use the controls of the oscilloscope to expand portion A of the TP225 waveform.<br>3) Adjust R215, R219 and R231 alternately for minimum chromatic level (less than 40 mVp-p of the magenta portion). |
| 4 | EE level | • EE | • Color bar<br>• SP<br>• S-VHS | • VIDEO OUT or<br>• TP110 | • R36 (EE Y LEVEL) | 1) Connect an oscilloscope to TP110 or VIDEO OUT.<br>2) Adjust R36 for 0.97 ± 0.03 Vp-p (with 75Ω load). |
| 5 | Sub empha input level<br><br> <br>Fig. 2-5-2 | • EE | • Color bar<br>• SP<br>• S-VHS | • TP439 0 5 VIDEO UNIT | • R416 (SUB EMPHA INPUT LEVEL) 0 5 VIDEO UNIT | 1) Connect an oscilloscope to TP439.<br>2) Adjust R416 for 400 mVp-p signal level in the E-E mode. |

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 6 | YNR balance | • EE | • Color bar<br>• LP<br>• S-VHS | • TP421<br>$\boxed{0}\boxed{5}$<br>VIDEO UNIT | • R444<br>(YNR BAL-ANCE)<br>$\boxed{0}\boxed{5}$<br>VIDEO UNIT | 1) Connect an oscilloscope to TP421.<br>2) Adjust R444 for minimum DC step difference. |
| | |  <br>**Fig. 2-5-3** | | | | |
| 7 | S REC FM level | • REC | • Color bar<br>• LP<br>• S-VHS | • TP1<br>(REC FM OUT)<br>$\boxed{4}\boxed{2}$<br>PRE AMP | • R23<br>(REC FM LEVEL)<br>$\boxed{4}\boxed{3}$<br>REC | **Note:** *Connect an oscilloscope's GND terminal to TP-GND near the shield case of the PRE AMP board.*<br>1) Connect an oscilloscope to TP1 of the PRE AMP board and record a color bar signal in the LP mode.<br>2) Adjust R23 for 26 mV pedestal level, between centers of the waveform outline at the pedestal portion. |
| | |  <br>**Fig. 2-5-4** | | | | |
| 8 | SP REC color level | • PB | • MH-2H Color bar<br>• SP<br>• AUTO TRACKING: OFF | • IC501 pin 19<br>$\boxed{0}\boxed{5}$<br>VIDEO UNIT | • R91<br>(SP REC COLOR LEVEL)<br>$\boxed{4}\boxed{3}$<br>REC | **Note:** *Use larger-level waveform for adjustments.*<br>1) Connect an oscilloscope to IC501-19. Play back the coloru bar segment of the MH-2H and observe color signal level.<br>2) Adjust by pressing the + and – TRACKING buttons of the FRONT panel for maximum level of the color waveform and make a note of the higher color level "A".<br>3) Set the TRACKING control of the FRONT panel to the preset position by simultancously pressing the + and – TRACKING buttons.<br>4) Record and play back the color bar signal. If necessary, before recording, adjust R91 so that the higher level channel becomes 110% of the noted level "A" during playback. At this time, confirm that the channel difference is within 3 dB. |
| | | • REC<br>↓<br>PB | • Color bar<br>• SP<br>• S-VHS<br>• AUTO TRACKING: OFF | | | |
| | |  <br>**Fig. 2-5-5** | | | | |

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 9 | LP REC color level | • PB | • MH-2H color bar<br>• LP<br>• AUTO TRACKING: OFF | • IC501 pin 19<br>$\boxed{0}\boxed{5}$ VIDEO UNIT | • R90 (LP REC COLOR LEVEL)<br>$\boxed{4}\boxed{3}$ REC | **Note:** *Perform the LP mode adjustment after completing that for the SP mode.*<br>1) Connect an oscilloscope to IC501-19. Play back the color bar segment of the MH-2H and observe color signal level.<br>2) Adjust by pressing the + and – TRACKING buttons of the FRONT panel for maximum level of the color waveform and make a note of the higher color level "A".<br>3) Set the TRACKING control of the FRONT panel to the preset position by simultaneously pressing the + and – TRACKING buttons. |
|  |  | • REC<br>↓<br>PB | • Color bar<br>• LP<br>• S-VHS<br>• AUTO TRACKING: OFF<br> <br>Fig. 2-5-6 |  |  | 4) Record and play back the color bar signal. If necessary, before recording, adjust R90 so that the higher level channel becomes 110% of the noted level "A" during playback. At this time, confirm that the channel difference is within 3 dB. |
| 10 | PB Y level | • REC<br>↓<br>PB | • Color bar<br>• SP | • VIDEO OUT<br>or<br>• TP110 | • R64 (N PB Y LEVEL) | 1) Connect an oscilloscope to VIDEO OUT or TP110.<br>2) Record the color bar signal in the VHS mode, then play it back.<br>3) Adjust R64 for 0.97 ± 0.03 Vp-p (with 75Ω load). |
|  |  | • REC<br>↓<br>PB | • Color bar<br>• SP<br>• S-VHS |  | • R63 (S PB Y LEVEL) | 4) Record the color bar signal in the S-VHS mode, then play it back.<br>5) Adjust R63 for 0.97 ± 0.03 Vp-p (with 75Ω load). |

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 11 | S frequency response | • REC<br>↓<br>PB | • Color sweep<br>• SP<br>• S-VHS | • Y OUT | • R35 (S SP VIDEO EQ)<br>4 3<br>REC | 1) Terminate Y OUT with a 75Ω load and set the SHARPNESS control to the centre detent position.<br>2) Connect a signal generator to S-IN and an oscilloscope to Y OUT.<br>3) Record in the SP mode, then play back and set 100 kHz level to 3 scale divisions on X axis at CH-1 waveform.<br>4) Adjust R35 so that the 3.0 MHz level becomes 2.5 to 2.8 scale divisions (–1 ± 0.5 dB).<br>5) Confirm that the level difference between both channels is less than 2 dB. |
| |  S CABLE<br>RCA-S adapter (PTU93001A)<br>Y<br>COLOR<br>SWEEP GENERATOR<br>OUTPUT<br>3 scale divisions<br>100 kHz<br>2 MHz<br>3 MHz<br>SP: 2.5 – 2.8<br>LP: 2.0 – 2.3<br>**Fig. 2-5-7** | | | | | |
| | | • REC<br>↓<br>• PB | • Color sweep<br>• LP<br>• S-VHS | | • R36 (S LP VIDEO EQ)<br>4 3<br>REC | 6) In the same manner as above, perform adjustment for LP mode.<br>7) Record in the LP mode, then play back and set 100 kHz level to 3 scale divisions on X axis at CH-1 waveform.<br>8) Adjust R36 so that the 3.0 MHz level becomes 2.0 to 2.3 scale divisions (–3 ± 0.5 dB). Confirm that the level difference between both channels is less than 2 dB. |

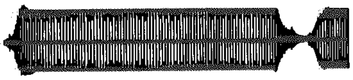
| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 12 | N frquency responce | • REC<br>↓<br>PB | • Color sweep<br>• SP | • Y OUT | • R65<br>(N SP VIDEO EQ)<br>$\boxed{4}$ $\boxed{3}$<br>REC | 1) Terminate Y OUT with a 75Ω load and set the SHARPNESS control to the centre detent position.<br>2) Connect a signal generator to S-IN and an oscilloscope to Y OUT.<br>3) Record in the SP mode, then play back and set 100 kHz level to 3 scale divisions on X axis at CH-1 waveform.<br>4) Adjust R65 so that the 2.0 MHz level becomes 2.4 to 3.0 scale divisions (–1 ± 1 dB).<br>5) Confirm that the level difference between both channels is less than 2 dB. |
| | |  3 scale duvisions<br>100 kHz<br>2 MHz<br>SP: 2.4 – 3.0<br>LP: 1.5 – 2.4<br>**Fig. 2-5-8** | | | | |
| | | • REC<br>↓<br>PB | • Color sweep<br>• LP | | • R66<br>(N LP VIDEO EQ)<br>$\boxed{4}$ $\boxed{3}$<br>REC | 6) In the same manner as above, perform adjustment for LP mode.<br>7) Record in the LP mode, then play back and set 100 kHz level to 3 scale divisions on the screen at CH-1 waveform.<br>8) Adjust R66 so that the 2 MHz level becomes 1.5 to 2.4 scale divisions ($-5^{+3}_{-1}$ dB).<br>9) Confrim that the level difference between both channels is less than 2 dB. |
| 13 | Bell trans | • EE | • Color bar (SECAM) | • TP801<br>$\boxed{8}$ $\boxed{8}$<br>SECAM COLOR | • LC501<br>(REC OUTPUT BELL)<br>$\boxed{8}$ $\boxed{8}$<br>SECAM COLOR | 1) Supply a color bar signal to VIDEO IN, connect an oscilloscope to TP801.<br>2) Use the controls of the oscilloscope to expand portion waveform of the TP801 as shown in Fig. 2-5-9.<br>3) Tirgger the oscilloscope externally with signal from TP12 (SYNC).<br>4) Adjust LC501 for equal magenta color levels of both horizontal signals. |
| | |  <br>**Fig. 2-5-9** REC output | | | | |
| | | • REC<br>↓<br>PB | • Color bar (SECAM)<br>• SP | • TP808<br>$\boxed{8}$ $\boxed{8}$<br>SECAM COLOR | • LC502<br>(PB OUTPUT BELL)<br>$\boxed{8}$ $\boxed{8}$<br>SECAM COLOR | 5) Record a color bar signal in the SP mode. Play back recorded color bar signal in the SP mode, set the tracking of the front panel to the Auto tracking off position by simultaneously pressing the (+) and (–) tracking buttons.<br>6) Use the controls of the oscilloscope to expand portion waveform of TP808 as shown in Fig. 2-5-9.<br>7) Adjust LC502 for equal magenta color level of both horizontal signals. |

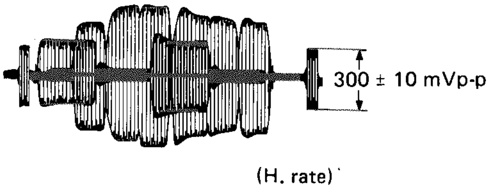
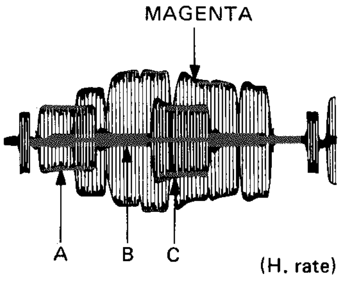
| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 14 | REC color level (SECAM) | • EE | • Color bar (PAL)<br>• SP | • TP550 $\boxed{0}\boxed{5}$ VIDEO UNIT | • R502 (SECAM REC COLOR LEVEL) $\boxed{8}\boxed{8}$ SECAM COLOR | 1) Supply a color bar signal to VIDEO IN, connect an oscilloscope to TP550.<br>2) Make a note of burst level "A". |
| | | |  **Fig. 2-5-10** PAL Burst level | | | |
| | | • EE | • Color bar (SECAM)<br>• SP | | | 3) Supply a SECAM color bar signal to VIDEO IN, connect an oscilloscope to TP550.<br>4) Adjust R502 so that magenta level is "A" x 95%. |
| | | |  **Fig. 2-5-11** SECAM mazenta level | | | |
| 15 | SECAM DET. | • EE | • Color bar (SECAM)<br>• SP | • TP601 $\boxed{0}\boxed{5}$ VIDEO UNIT | • LC601 (SECAM DET) $\boxed{0}\boxed{5}$ VIDEO UNIT | 1) Connect an oscilloscope to TP601.<br>2) Adjust LC601 so that A and B are related as follows:<br>A : B = 1 : 1 (SECAM) |
| | | |  **Fig. 2-5-12** | | | |

## 2.6 PAL/SECAM CONVERTER CIRCUIT

### 2.6.1 SECAM → PAL CONVERT

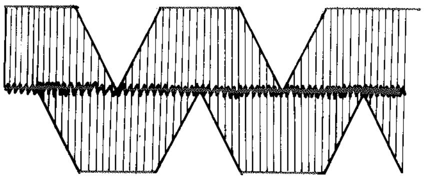
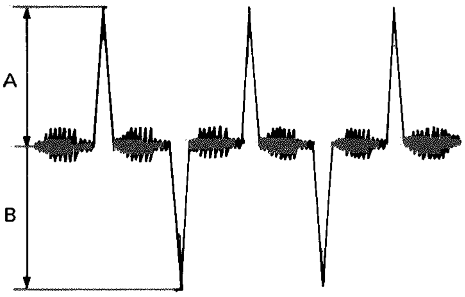
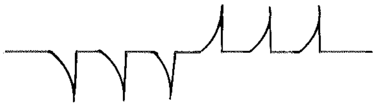
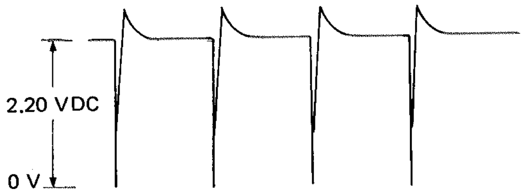
**Note:** *Unless otherwise specified, all test points and adjustments are loacted on the 8 7 SECAM PROCESS board.*

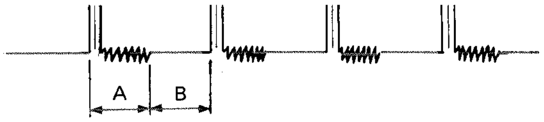
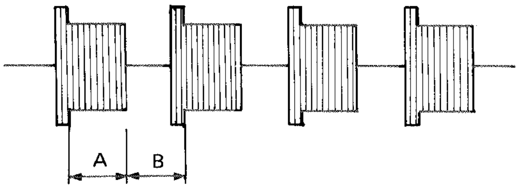
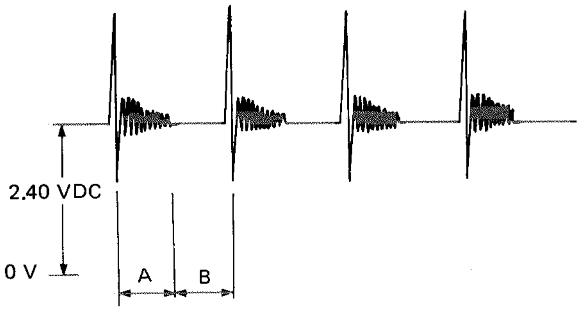
| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 1 | fH OSC | • EE | • Color bar (SECAM) | • TP207 | • R210 (fH OSC) | 1) Short circuit between TP202 and GND.<br>2) Connect a frequency counter to TP207 and adjust R210 to obtain 15.625 kHz ± 20 Hz. |
| 2 | SC frequency | • EE | • Color bar (SECAM) | • TP206 | • R229 (COLOR PHASE -1)<br>• C230 (SC FREQ -2) | 1) Connect a frequency counter to TP206.<br>2) Adjust R229 so that TP206's signal oscillate.<br>3) Adjust C230 so that frequecy is 4.433619 MHz ± 50 Hz. |
| 3 | Bell filter | • EE | • Color bar (SECAM)<br><br>(H. rate)<br>Fig. 2-6-1 | • TP204<br>• TP209 (H. SYNC) | • L207 (BELL FILTER) | 1) Connect an oscilloscope to TP204 with external trigger from TP209.<br>2) Adjust L207 for flat waveform. |

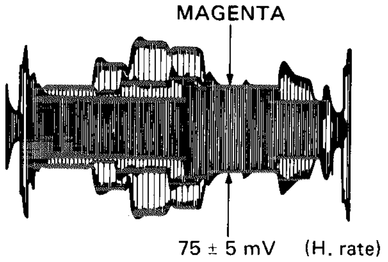
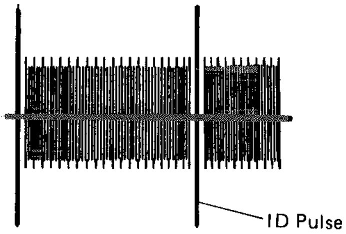
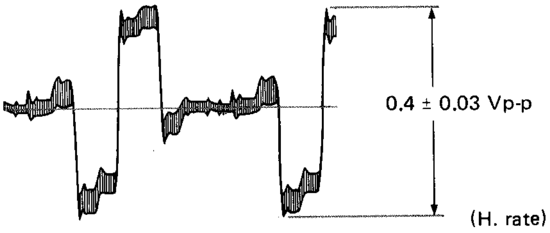
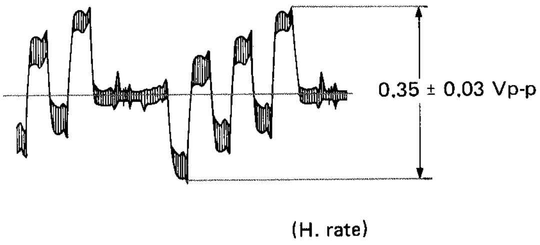
| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 4 | Burst level-1 | • EE | • Color bar (SECAM)<br><br> <br>Fig. 2-6-2 | • TP205 | • R221 (BURST LEVEL-1) | 1) Connect an oscilloscope to TP205.<br>2) Adjust R221 so that burst level is 300 ± 10 mVp-p. |
| 5 | Color phase | • EE | • Color bar (SECAM)<br><br> <br>Fig. 2-6-3 | • TP205 | • R229 (COLOR PHASE-1)<br>• L203 (COLOR PHASE-2)<br>• R237 (COLOR PHASE-3)<br>• L205 (COLOR PHASE-4) | 1) Adjust R229 and L203 to equalize the levels of portions A and B of the waveform and to minimize the level of the portion B at the same time.<br>2) Adjust R237 and L205 so that the magenta level is the same for a 2H period at TP205.<br>3) Repeat the above No. 4 Burst level-1. |

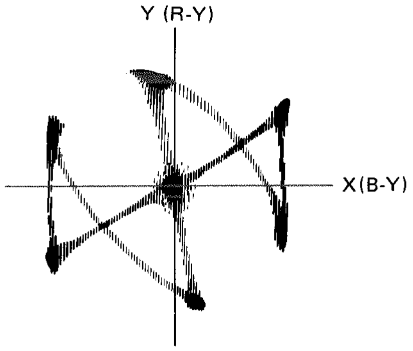
### 2.6.2 PAL → SECAM CONVERT

**Note:** *Unless otherwise specified, all test points and adjustment are located on the [8] [7] SECAM PROCESS board.*

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 1 | PAL VCO | • EE | • Color bar (PAL) | • TP301 | • R312 (PAL VCO) | 1) Connect an oscilloscope to TP301.<br>2) Adjust R312 to lock PLL.<br>3) Adjust R312 so that A and B are related as follows:<br>A : B = 1 : 1 |
| | | | Waveform with PLL unlocked<br><br>Waveform with PLL locked<br> <br>Fig. 2-6-4 | | | |
| 2 | SECAM SC VCO | • EE | • Color bar (PAL) | • TP307 | • R348 (R SC VCO) | 1) Connect an oscilloscope to TP307.<br>2) Adjust R348 to lock PLL and then adjust DC level to be 2.20 ± 0.05 V. |
| | | | Waveform with PLL unlocked<br><br>Fig. 2-6-5<br>Waveform with PLL locked<br> <br>Fig. 2-6-6 | | | |
| | | | | • TP311 | • R351 (B SC VCO) | 3) Connect the oscilloscope to TP311.<br>4) Adjust R351 to lock PLL and then adjust DC level to be 2.20 ± 0.05 V. |

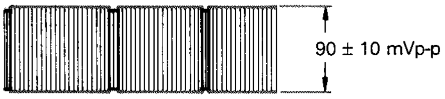
| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 3 | SECAM MOD VCO<br>Waveform with PLL unlocked owing to too low DC level<br><br> <br>**Fig. 2-6-7**<br>Waveform with PLL unlocked owing to too high DC level<br><br> <br>**Fig. 2-6-8**<br>Waveform with PLL locked<br><br> <br>**Fig. 2-6-9** | • EE | • Color bar (PAL) | • TP308<br>• TP306 | • R350 (SECAM MOD VCO-1)<br>• R341 (SECAM MOD VCO-2)<br>• R353 (SECAM MOD VCO-3)<br>• R340 (SECAM MOD VCO-4) | 1) Adjust R350 to lock signal from TP308 and then adjust DC level of the center portion to be 2.40 ± 0.05 V. (Fig. 2-6-9) However, when there is stepped DC level difference between the portion A and the portion B, adjust R341 first to smooth the waveform beforehand.<br>2) Adjust R353 to lock signal from TP306 and then adjust DC level of the center portion to be 2.40 ± 0.05 V. (Fig. 2-6-9) However, when there is stepped DC level difference between the portion A and the portion B, adjust R340 first to smooth the waveform beforehand. |

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 4 | Magenta level-1 | • PB | • MH-2 Color bar<br>• SP | • TP303 | • R335 (MAGENTA LEVEL-1) | 1) Play the color bar signal of the aligment tape.<br>2) Connect an oscilloscope to TP303.<br>3) Adjust R335 so that magenta level is 75 ± 5 mV. |
| |  Fig. 2-6-10 | | | | | |
| 5 | Color phase-1 | • EE | • Color bar | • TP303 | • R344 (LIMITTER LEVEL-1) | 1) Adjust R344 so that ID pulse from TP303 overlaps in the waveform. |
| |  Fig. 2-6-11 | | | | | |
| 6 | Color phase-2 | • PB | • MH-2H Color bar<br>• SP | • TP304<br>• TP305 | • R324 (PAL COLOR PHASE-1)<br>• R326 (PAL COLOR PHASE-2) | 1) Play the color bar signal of the aligment tape.<br>2) Adjust R324 so that R-Y level is 0.40 ± 0.03 Vp-p at TP304.<br>3) adjust R326 so that B-Y level is 0.35 ± 0.03 Vp-p at TP305. |
| |  Fig. 2-6-12 | | | | | |
| |  Fig. 2-6-13 | | | | | |

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 7 | Color phase-3<br><br> <br>Fig. 2-6-14 | • PB | • MH-2H Color bar | • TP304<br>• TP305 | • R322 (PAL COLOR PHASE-4)<br>• R314 (SECAM MOD VCO-2)<br>• L305 (PAL COLOR PHASE-5) | 1) Play the color bar signal of the alignment tape.<br>2) Connect CH-1 (X-axis) to TP305 and CH-2 (Y-axis) to TP304.<br>3) Set the oscilloscope for the X-Y mode.<br>4) Adjust R322, R314 and L305 to minimizi each dot's movement.<br>5) Repeat the No. 6 color phase-2. |
| 8 | Bell filter | • PB | • MH-2 Color bar | • TP303 | • LC301 (PAL BELL FILTER) | 1) Play the color bar signal of the aligment tape.<br>2) Adjust LC301 so that the magenta level is the same for a 2H period at TP303. |
| 9 | Magenta level-2 | • EE | • Color bar (PAL) | • TP303 | • R335 (MAGENTA LEVEL-2) | 1) Connect an oscilloscope to TP303.<br>2) Confirm that magenta level is 75 ± 5 mV.<br>3) If necessary, adjust R335 so that magenta level is 75 ± 5 mV. |

## 2.7 AUDIO CIRCUIT

**Note:** *Unless otherwise specified, all test points and adjustments are located on the* $\boxed{1}\boxed{0}$ *VIDEO INTERFACE board.*

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 1 | Audio bias level | • REC | • No signal<br>• SP | • TP331<br>• TP332 (GND) | • R304 (BIAS) | 1) Connect a millivoltmeter between TP331 and TP332.<br>2) Set for REC mode without signal.<br>3) Adjust R304 for 2.5 mVrms. |
| 2 | Audio PB level | • REC ↓ PB | • 1 kHz<br>• SP | • AUDIO OUT<br>• Audio monitor : normal | • R303 (PB LEVEL) | 1) Connect an audio tester to AUDIO OUT.<br>2) Supply an audio signal (–8 dBs/1 kHz) to Peri. In and record together with a video signal, then play back.<br>3) Ajust R303 so that the audio output level during playback becomes –6 ± 2 dBs. |
| 3 | REC FM level | • REC ↓ PB | • No signal<br>• SP<br>• S-VHS<br> <br>Fig. 2-7-1 | • TP53 $\boxed{4}\boxed{3}$ REC | • R216 $\boxed{4}\boxed{3}$ REC | 1) Connect an oscilloscope to TP53.<br>2) Record in the SP mode, without an audio signal, then play back.<br>3) Adjust R216 for 90 ± 10 mVp-p. |
| 4 | E-E level | • REC | • 1 kHz<br>• SP<br>• ALC: OFF<br>• Audio HiFi<br>• REC LEVEL VR: CENTER<br>• REC BALANCE VR: CENTER | • AUDIO OUT | • R302 (EE LEVEL)<br>• R301 (EE BALANCE) | 1) Supply a 1 kHz, –8 dBs audio signal to Peri. IN and a video signal to Perio. IN.<br>2) Set Hi-Fi REC level and balance controls to center detent position.<br>3) Adjust R302 (E-E level) and R301 (E-E balance) so that audio output level becomes –6 ± 1 dBs at AUDIO OUT (both channels). |

## 2.8 TUNER/IF CIRCUIT

**Note:** *Unless otherwise specified, all test points and adjustment are located on the* 0 7 *IF board.*

Unless otherwise indicated, all test points and adjustments are located on the IF and TUNER CTL Boards.

**Equipment required**

1. Oscilloscope
2. IF sweep signal generator with suitable markers (PIF, SIF, etc.)
3. DC power supplies – For power bias (12.0 V)
   – For IF AGC bias (approx. 5 V variable)
4. Sweeper probe (sweep signal supply cable) as shown below.

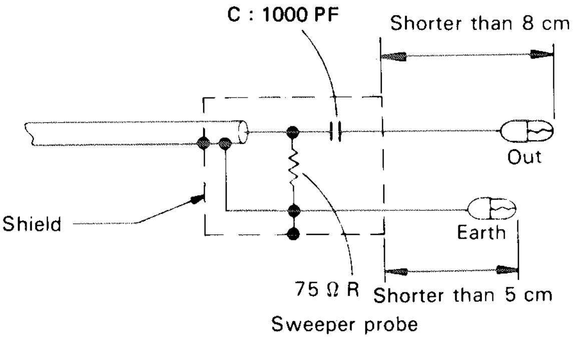
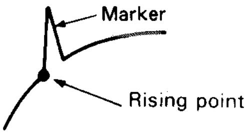
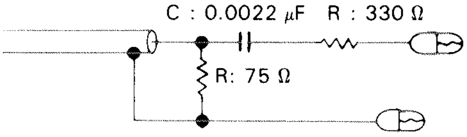
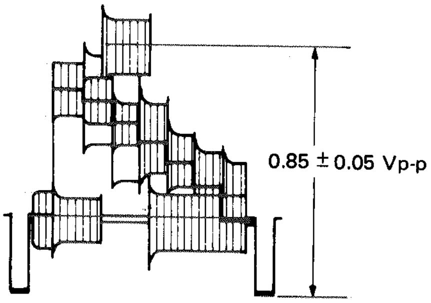
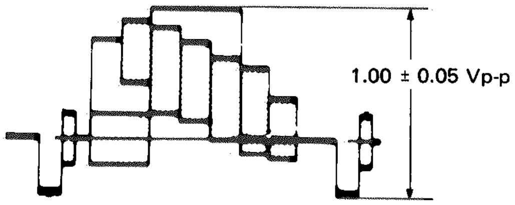


Fig. 2-8-1

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 1 | LLD Coil | • EE | • TUNER<br> <br>Fig. 2-8-2 | • IC1 pin 27 | • T6 (LLD) | 1) Use sweeper probe as shown in Fig. 2-7-1 and connect the sweep generator output to pin 8 of IC1.<br>2) Adjust the sweep gain so that the waveform does not distort as observed with the oscilloscope.<br>3) Adjust T6 (LLD coil) so that the rising commponent of the 38.9 MHz marker becomes maximum level. |
|  |  |  | • TUNER<br>• TV broadcast | • TV monitor | • T6 (LLD) | **Altemate method:**<br>1) Receive a color broadcast on a VHF channel.<br>2) Adjust T6 to obtain a fine picture on the monitor. |
| 2 | Sound trap | • EE | • TUNER | • Q6 correcter | • T3 (SOUND TRAP) | 1) Use sweeper probe as shown in Fig. 2-7-1 and connect sweep generator output (32.38 MHz, unmodulated, 80 dB$\mu$/75Ω) to JP2-1.<br>2) Connect oscilloscope to Q6-C. Adjust T3 so that carrier waveform is minimum level. |
|  |  |  | • TUNER<br>• TV broadcast | • TV monitor | • T3 (SOUND TRAP) | **Altemate method:**<br>1) Receive a color broadcast on a VHF channel.<br>2) Adjust T3 for maximum level at audio sound. |

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 3 | OSC | • EE | • TUNE | • Q4 corrector | • T5<br>(OSC) | 1) Connect oscilloscope to Q4-C.<br>2) Adjust T5 so that 71.88 MHz marker becomes maximum level. |
| | | | • TUNER<br>• TV broadcast | • TV monitor | • T5<br>(OSC) | **Altemate method:**<br>1) Receive a color broadcast on a VHF channel.<br>2) ADjust T5 to obtain a fine picture on the monitor. |
| 4 | DBM BAL | • EE | • TUNER<br> <br>Fig. 2-8-3 | • Q6 corrector | • R2<br>(DBM BAL) | 1) Use sweeper probe as shown in Fig. 2-7-3 and connect sweep generator output (33.0 MHz unmodulated, 70 dBµ/75Ω) to pin 1 of JP2.<br>2) Connect oscilloscope to Q6-C.<br>3) Adjust R2 so that the carrier waveform of 33.0 MHz is minimum level (less than 70 dBµ).<br>**Note:** *For ordinary service, it may be adequate to simply observe the TV-monitor picture and adjust for absence of beat.* |
| | | | • TUNER<br>• TV broadcast | • TV monitor | • R2<br>(DBM BAL) | **Altenate method:**<br>1) Receive a color broadcast on a VHF channel.<br>2) Adjust R2 for absence of beat on the monitor. |
| 5 | S LLD | • EE | • TUNER | • CN2 pin 6<br>[0] [8]<br>TNR CTL | • T1<br>(S LLD)<br>[0] [8]<br>TNR CTL | 1) Use sweeper probe as shown in Fig. 2-7-1 and connect sweep generator output (32.38 MHz, 1 kHz/60% modulated, 70 dBµ/75Ω, AM MOD) to pin 6 of JP2.<br>2) Connect distortion-meter to pin 6 of CN2 and observe audio signal. Adjust T1 so that the distortion becomes minimum (less than 2.0%). |
| | | | • TUNER<br>• TV broadcast | • TV monitor | • T1<br>(S LLD) | **Alternate method:**<br>1) Receive a color broadcast on a VHF channel. Connect oscilloscope to CN2-6 of the TUNER CTL board.<br>2) Adjust T1 for maximum level at audio sound. |
| 6 | AUDIO LEVEL | • EE | • TUNER | • CN2 pin 6<br>[0] [8]<br>TNR CTL | • R14<br>(AUDIO LEVEL) | 1) Use sweeper probe as shown in Fig. 2-7-3 and connect sweep generator output (32.38 MHz, 1 kHz/80% modulated, 75 dBµ/75Ω, AM MOD) to pin 6 of JP2. |
| | | | • TUNER<br>• TV broadcast | • TV monitor | • R14<br>(AUDIO LEVEL) | **Alternate method:**<br>1) Receive a color broadcast on a VHF channel. Connect oscilloscope to CN2-6 fo the TUNER CTL board.<br>2) Adjust R14 for a fine audio sound. |

<table>
<tr><th>No.</th><th>Item</th><th>Mode</th><th>Signal & Setting</th><th>Measurement Point</th><th>Adjustment Parts</th><th>Adjustment Procedure</th></tr>
<tr><td colspan="7">Before the following adjustments;<br>1. Connect a cable to ANT IN and terminate TV out at 75Ω.<br>2. Set a TV channel signal generator as follows.<br>Video : 65 dBμ/75Ω, color bar 95% modulation<br>Audio : 55 dBμ/75Ω, 1 kHz 80% modulation<br>(SECAM)<br>Video : 65 dBμ/75Ω color bar 87.5% modulation<br>Audio : 55 dBμ/75Ω 1 kHz ± 50 kHz deviation<br>(PAL)</td></tr>
<tr><td>7</td><td>Y level (SECAM)</td><td>• EE</td><td>• Color bar (SECAM)</td><td>• CN2 pin 4 (VIDEO $\boxed{0}\boxed{8}$ TNR CTL</td><td>• R31 (SECAM Y LEVEL)</td><td>1) Connect oscilloscope to CN2 pin 4 of TNR-CTL board and observe Y level signal. Adjust R31 for 0.85 ± 0.05 Vp-p as shown in Fig. 2-7-4.</td></tr>
<tr><td></td><td colspan="5"> Fig. 2-8-4</td><td></td></tr>
<tr><td></td><td></td><td></td><td>• TUNER<br>• TV broadcast</td><td>• TV monitor</td><td>• R31 (SECAM Y LEVEL)</td><td>1) Receive a color broadcast on a VHF channel.<br>2) Adjust R31 so that the magenta level becomes 2/3% of the sync. level.</td></tr>
<tr><td>8</td><td>Y level (PAL)</td><td>• EE</td><td>• Color bar (PAL)</td><td>• CN2 pin 4 (VIDEO OUT) $\boxed{0}\boxed{8}$ TNR CTL</td><td>• R71 (PAL Y LEVEL)</td><td>1) Receive a PAL color bar signal. Adjust R71 to obtain 1.00 ± 0.05 Vp-p as shown in Fig. 2-7-5.</td></tr>
<tr><td></td><td colspan="5"> Fig. 2-8-5</td><td></td></tr>
<tr><td></td><td></td><td></td><td>• TUNER<br>• TV broadcast</td><td>• TV monitor</td><td>• R71 (PAL Y LEVEL)</td><td>1) Receive a color broadcast on a VHF channel.<br>2) Adjust R71 so that the magenta level becomes 2/3% of the sync. level.</td></tr>
</table>

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 9 | RF AGC | • EE | • TUNER | • IF terminal of front end | • R37 (RF AGC) | 1) Connect the socilloscope to IF terminal of U/V Tuner (Front end). Adjust R37 for maximum level, then again adjust R37 for –8 dB again. |
|  |  |  | • TUNER<br>• TV brodcast | • TV monitor | • R37 (RF AGC) | **Alternate method:**<br>**Note:** *Adjust R37 (RF AGC) to correct for excess noise in the picture or when streaky cross interference oscurs due to strong electrical fields.*<br>1) Adjust R37 to minimize noise or streaks on the TV screen.<br>2) Check for absence of abnormality on all channels. |
| 10 | Audio level (PAL) | • EE | • TUNER | • CN2 pin 6<br>$\boxed{0}$ $\boxed{8}$<br>TNR CTL | • R30 (PAL AUDIO LEVEL)<br>$\boxed{0}$ $\boxed{8}$<br>TNR CTL | 1) Use sweeper probe as shown in Fig. 2-7-3 and connect sweep generator output (32.38 MHz, 1 kHz/80% modulated, 75 dBμ/75Ω, AM MOD) to pin 6 of JP2.<br>2) Adjust R30 for –8 dBs audio level at pin 6 of CN2. |
|  |  |  | • TUNER<br>• TV broadcast | • TV monitor | • R30 (PAL AUDIO LEVEL)<br>$\boxed{0}$ $\boxed{8}$<br>TNR CTL | **Alternate method:**<br>1) Receive a color broadcast on a VHF channel. Connect oscilloscope to cN2-6 of the TUNER CTL board.<br>2) Adjust R30 for a fine audio sound. |

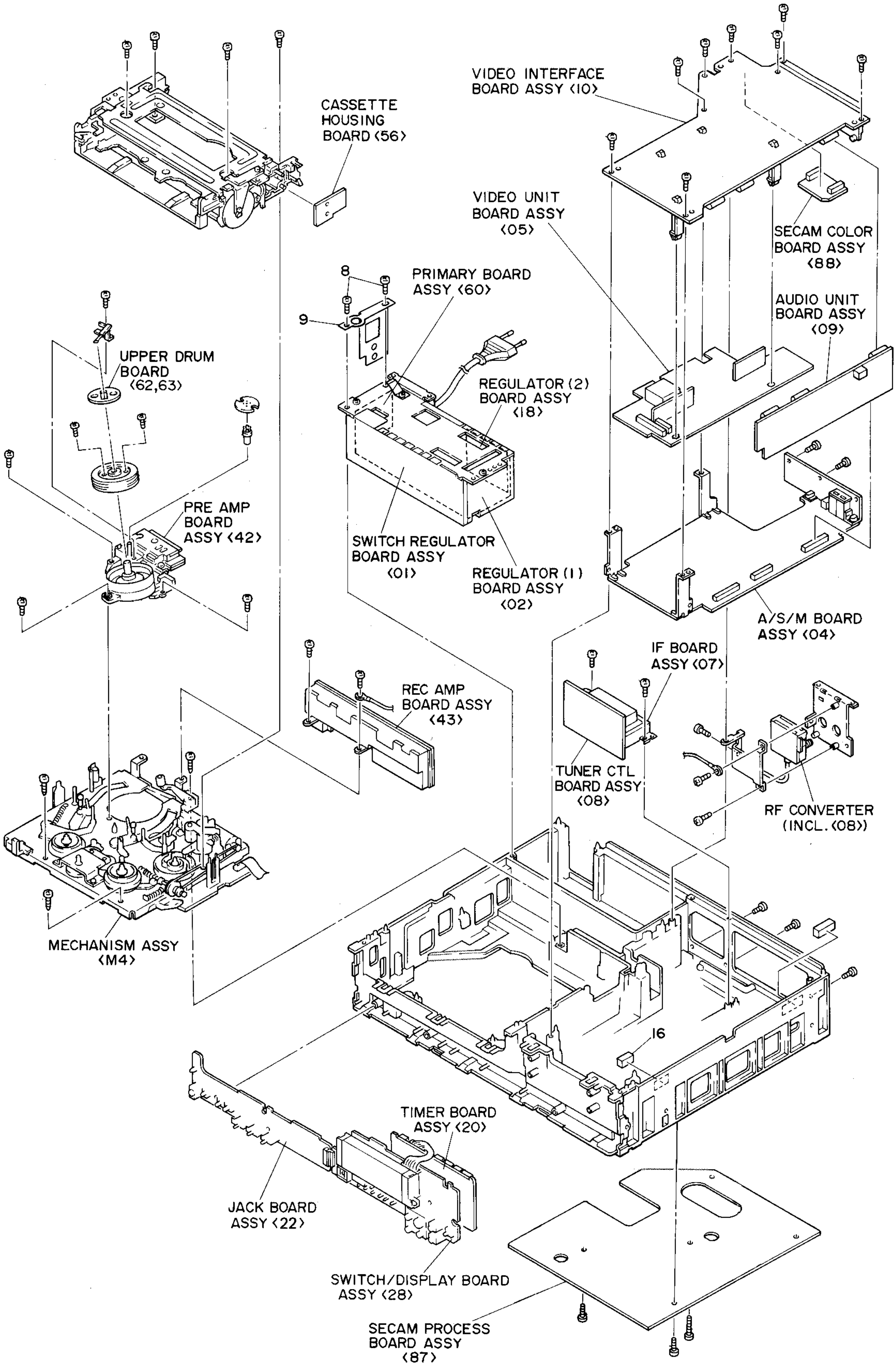
## 2.9 ON SCREEN CIRCUIT

**Note:** *Unless otherwise specified, all test points and adjustments are located on the* 1 0 *VIDEO INTERFACE board.*

| No. | Item | Mode | Signal & Setting | Measurement Point | Adjustment Parts | Adjustment Procedure |
|---|---|---|---|---|---|---|
| 1 | Dot clock | • EE | • TUNER | • TP901 | • C905 (DOT CLOCK) | 1) Connect a frequency counter to TP901 and GND.<br>2) Short IC901-3 pin to GND and short IC901-30 pin to IC901-32 pin (SWD 5 V).<br>3) Adjust C905 for 7.30 ± 0.05 MHz.<br>**Note:** *If incorrectly the above adjustments, slip out the on screen display.*<br>*For adjustment of above steps (2) to (4), looking for Menu on the monitor-TV and rough adjustment C905 preparation.* |
| 2 | Burst clock | • EE | • TUNER | • TP902 | • C916 (BURST CLOCK) | 1) Connect a frequency counter to TP902 and GND.<br>2) Adjust C916 for 17.73447 ± 0.00030 MHz.<br>**Note:** *If incorrectly the above adjustment, blue back picture is not appear on the monitor-TV.*<br>*For adjustment of above steps (1) to (2), looking for Menu on the monitor-TV and rough adjustment C916 preparation.* |

# SECTION 3
# CHARTS AND DIAGRAMS

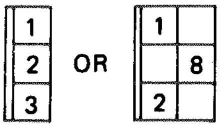
## 3.1 CIRCUIT BOARD AND LOCATION


VIDEO INTERFACE BOARD ASSY ⟨10⟩
CASSETTE HOUSING BOARD ⟨56⟩
VIDEO UNIT BOARD ASSY ⟨05⟩
SECAM COLOR BOARD ASSY ⟨88⟩
8
9
PRIMARY BOARD ASSY ⟨60⟩
AUDIO UNIT BOARD ASSY ⟨09⟩
UPPER DRUM BOARD ⟨62,63⟩
REGULATOR (2) BOARD ASSY ⟨18⟩
PRE AMP BOARD ASSY ⟨42⟩
SWITCH REGULATOR BOARD ASSY ⟨01⟩
REGULATOR (1) BOARD ASSY ⟨02⟩
A/S/M BOARD ASSY ⟨04⟩
IF BOARD ASSY ⟨07⟩
REC AMP BOARD ASSY ⟨43⟩
TUNER CTL BOARD ASSY ⟨08⟩
RF CONVERTER (INCL. ⟨08⟩)
MECHANISM ASSY ⟨M4⟩
16
TIMER BOARD ASSY ⟨20⟩
JACK BOARD ASSY ⟨22⟩
SWITCH/DISPLAY BOARD ASSY ⟨28⟩
SECAM PROCESS BOARD ASSY ⟨87⟩

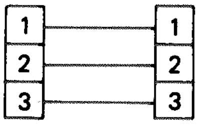
## 3.2 GENERAL INFORMATION

### 3.2.1 Connections

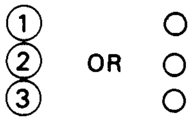
**Note:**
Unless otherwise specified, only signal input flow is indicated.
Connection arrows indicate only signal outputs.



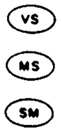
: Connectors



: Board in connectors



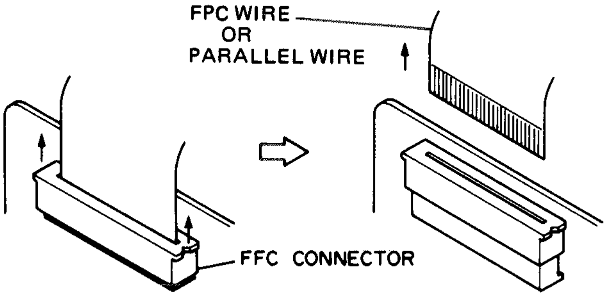
: Direct connections



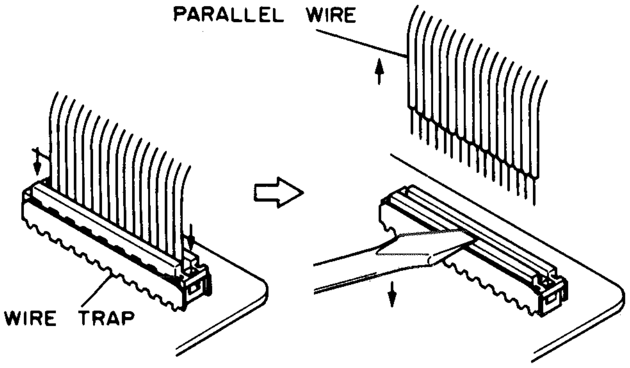
: Connected pattern in the board.
Abbreviations
V : Video M : Mechacon
S : Servo A : Audio
VS : Signal flow from video to servo.

### 3.2.2 Disconnecting the flatwire

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

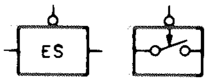


2. Depress the connector structure downward to release the clamp when removing or inserting the flat wire cable, as indicated below.

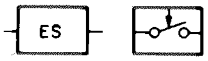


### 3.2.3 Indications

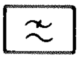
AUX : Active only at high.
$\overline{AUX}$ : Active only at low.
$\bar{A}\bar{U}\bar{X}$ : Active only at middle.
$\bar{A}U\bar{X}$ : Active only at open.



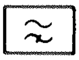
: Active only at low for electronic switch.



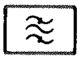
: Active only at high for electronic switch.



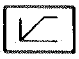
: Low pass filter.



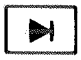
: High pass filter.



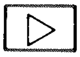
: Band pass filter.



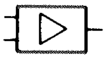
: Limiter.



: Detector



: Amplifier.



: Mixer stage.

### 3.2.4 Schematic diagram values

Unless otherwise specified.

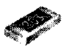
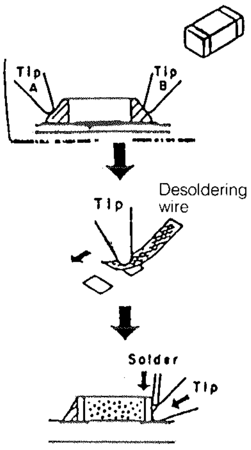
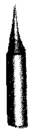
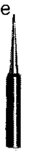
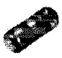
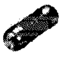
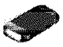
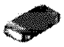
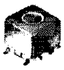
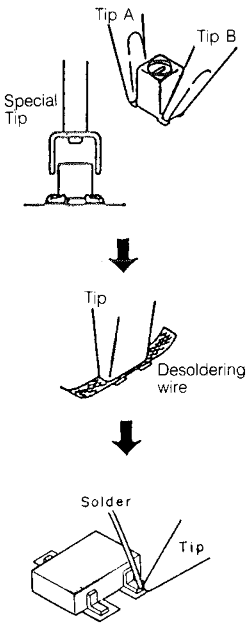
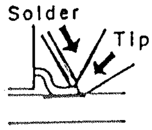
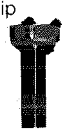
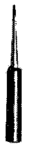
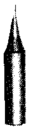
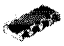
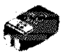
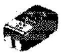
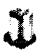
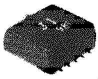
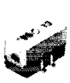
1. All resistance values are in ohms, 1/6 W, 1/8 W, (refer to parts list).
2. All capacitance values are in μF, (P; PF).
3. All inductance values are in μH, (m; mH).
4. All diodes are 1SS133 or MA165, (refer to parts list).
5. Voltages are DC-measured (reference to ground) with a digital voltmeter during recording (S VHS, SP mode) and playback (S VHS, SP mode) with alignment tape. Where voltages differ between recording and playback, the voltage during playback is shown in parentheses.
6. Waveforms (VIDEO System) are measured (reference to ground) with a color bar during recording (S VHS, SP mode) and playback (SP mode) with alignment tape.
7. Waveforms (AUDIO System) are measured (reference to ground) with 1 kHz (−8 dBs) during recording and playback with alignment tape (1 kHz).
8. Shaded ( ) parts are critical for safety.
Replace only with specified parts numbers.

### 3.2.5 Signal flow in the schematic

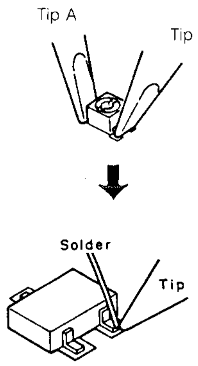
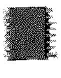
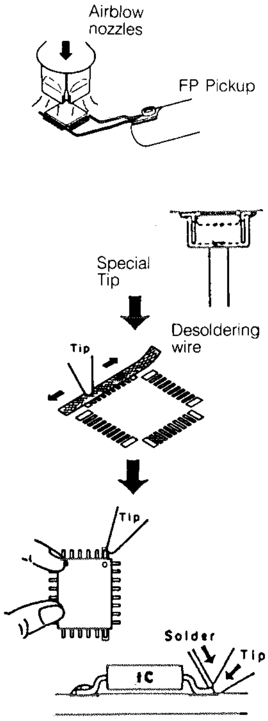
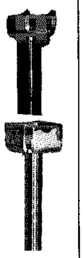
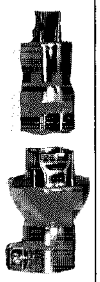
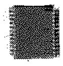
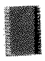
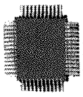
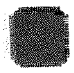
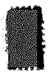
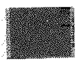
➡ Recording signal path
⇨ Playback signal path
⇨ REC/PB signal path

### 3.2.6 Basic knowledge of SMC* parts replacement

**Note:** *For datails, refer to "VIDEO SERVICE GUIDE" (VTS81001).*

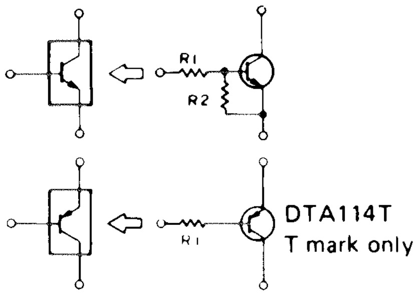
| Products | Appear-ance | Replacement technology | Removal method | Installation method | Soldering tip types | Cautions |
|---|---|---|---|---|---|---|
| Thick Film Chip Resistors |  |  | • **Use 2 soldering irons**<br>1. Use thin tip soldering irons.<br>2. Use soldering tip temperature of about 280°C.<br>3. Simultaneously heat both ends of the part.<br>4. While heating, grasp the part with the tips of the soldering irons and remove it.<br>5. Use desoldering wire to completely remove the old solder from the part location of the board.<br>6. A clean pattern for installing the new part is very important. | 1. Clean the area where the new part is to be moundted (use alcohol).<br>2. Apply flux.<br>3. Set part correctly into position, prevent it from shifting.<br>4. Bring the soldering iron tip close to the part contact without actually touching it. Melt thin (0.3 mm) solder between the tip and part so that it flows into the part contact.<br>5. Check work quality with a magnifier. | Thin tip type<br><br>Small flat-blade tip type<br> | Some parts can be damaged by sudden heating. Preheat the part at about 100°C for several minutes before installing it.<br>Do not touch the part body with the soldering iron.<br>The thin (0.3 mm) solder for miniature parts does not contain adequate flux. Supplementary flux is thus needed in most cases.<br>Set the position carefully and secure the part.<br>A defective trimming resistor cannot be adjusted externally. Replace with an ordinary variable resistor. |
| Carbon Film Chip Resitors |  | | | | | |
| Metal Film Chip Resistors |  | | | | | |
| Chip Ceramic Capacitors |  | | | | | |
| Chip Triming Resistors |  | | | | | |
| Chip Inductors |  |  Tip A<br>Tip B<br>Special Tip<br>Tip<br>Desoldering wire<br>Solder<br>Tip | • **Special desoldering iron**<br>1. Select soldering tip according to part size.<br>2. Bring the tip into contact with the soldered points.<br>3. When the solder melts, remove the part.<br>4. Remove the old solder with desoldering wire.<br>• **2 soldering irons**<br>1. Use small flat-blade tips.<br>2. Heat both ends of the part simultaneously.<br>3. When the solder melts, grasp and remove the part with the soldering iron tips.<br>4. Remove the old solder with desoldering wire. | 1. Clean the area where the new part is to be mounted (use alcohol).<br>2. Apply flux.<br>3. Set part correctly into position, prevent it from shifting.<br>4. Use sharp soldering iron tip. Bring close to the part contact without actually touching it. Melt thin solder between the tip and part so that it flows into the part contact.<br> <br>5. Check work quality with a magnifier. | Special Soldering tip<br><br>Small flat-blade tip type<br><br>Thin tip type<br> | Use care not to damage plastic components when soldering.<br>Position the part carefully. This will also affect the soldering operation.<br>Use care regarding soldering iron tip and avoid rapidly heating parts.<br>For larger parts, use a slightly higher temperature (about 300°C).<br>Check after installing (cold solder joints, etc.).<br>Use care not to damage the circuit pattern, especially when removing. |
| Chip Resistor Networks |  | | | | | |
| Chip Tantalum Capacitors |  | | | | | |
| Chip Tantalum Electrolytic Capacitors |  | | | | | |
| Chip Aluminum Electrolytic Capacitors |  | | | | | |
| Chip Transformers |  | | | | | |
| Chip Filters |  | | | | | |

*SMC: Surface Mounted Component

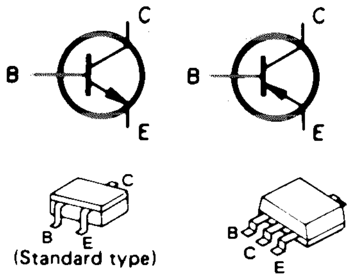
| Products | Appear-ance | Replacement technology | Removal method | Installation method | Soldering tip types | Cautions |
|---|---|---|---|---|---|---|
| Chip VRs | |  | • **2 soldering irons**<br>1. Use small flat-blade tips.<br>2. Heat the leads of the part simultaneously.<br>3. When the solder melts, grasp and remove the part with the soldering iron tips.<br>4. Remove the old solder with desoldering wire. | 1. Clean the area where the new part is to be moundted (use alcohol).<br>2. Apply flux.<br>3. Set part correctly into position, prevent it from shifting.<br>4. Use sharp soldering iron tip. Bring close to the part contact without actually touching it. Melt thin solder between the tip and part so that it flows into the part contact. | Thin tip type<br> <br>Small flat-blade tip type<br> | Use care not to damage the part when soldering.<br>Check for solder joints, expecially miniature parts with small leads. |
| Chip Trimmer Capacitors | | | | | | |
| Diodes | | | | | | |
| Transistors | | | | | | |
| IC (SOP)<br>(Small Outline Package) |  |   Airblow nozzles<br>FP Pickup<br>Special Tip<br>Desoldering wire<br>Tip<br>Tip<br>Solder<br>Tip<br>IC | • **Special desoldering iron**<br>1. Select the tip according to the size and shape of the IC.<br>2. "Tin" the tip with a small amount of solder.<br>3. Set the tip squarely over the IC leads.<br>4. When the solder melts, carefully twist the iron.<br>5. Raise and remove the IC.<br>• **Shaped airblower unit**<br>1. Select the correct nozzle.<br>2. Select the temperature and airblow (suggested: temp. 7, airblow 4).<br>3. Engage the IC removing tool.<br>4. Use the airblow to preheat the IC for about 5 seconds, then heat with the nozzle until the IC remover lifts the part from the board. | 1. Use desoldering wire to remove the previous solder.<br>2. Clean the location with alcohol.<br>3. Apply flux.<br>4. Position the IC and solder two pins at opposite sides.<br>5. Use a sharp tipped soldering iron and carefully solder each pin. (After gaining experience, a thicker tip can be used for better work efficiency.)<br>6. Remove any solder bridges with desoldering wire.<br>7. Inspect the work with a magnifier. | Special soldering tips.<br><br>Airblow nozzles<br> | Do not reuse removed parts.<br>Use care to avoid solder bridges. Remove any that occurs.<br>Remove the old IC carefully so as not to damage the circuit pattern.<br>Because of the many pins, cleanliness of the pattern is extremely important after removing the IC.<br>Be very precise in positioning the IC.<br>Soldering opposite pins first holds the IC in place and makes soldering the other pins easier.<br>It is important to inspect the work with a magnifier.<br>ICs (especially TSOP) are easily damaged by heat. Do not touch directly with the soldering iron. |
| IC (SSOP)<br>(Shrink Small Outline Package) |  | | | | | |
| IC (VSOP)<br>(Very Small Outline Package) |  | | | | | |
| IC (QFP)<br>(Quad Flat Package) |  | | | | | |
| IC (VQFP)<br>(Very Small Quad Flat Package) |  | | | | | |
| IC (PLCC)<br>(Plastic Leaded Chip Carrier) |  | | | | | |
| IC (TSOP)<br>(Thin Small Outline Package) |  | | | | | |

### 3.2.7 Semiconductors

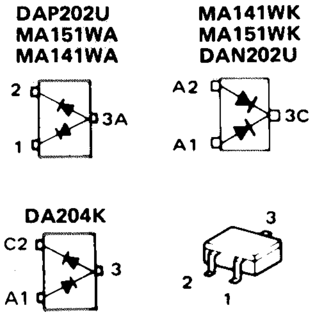
1. Digital transistor



2. Chip transistor



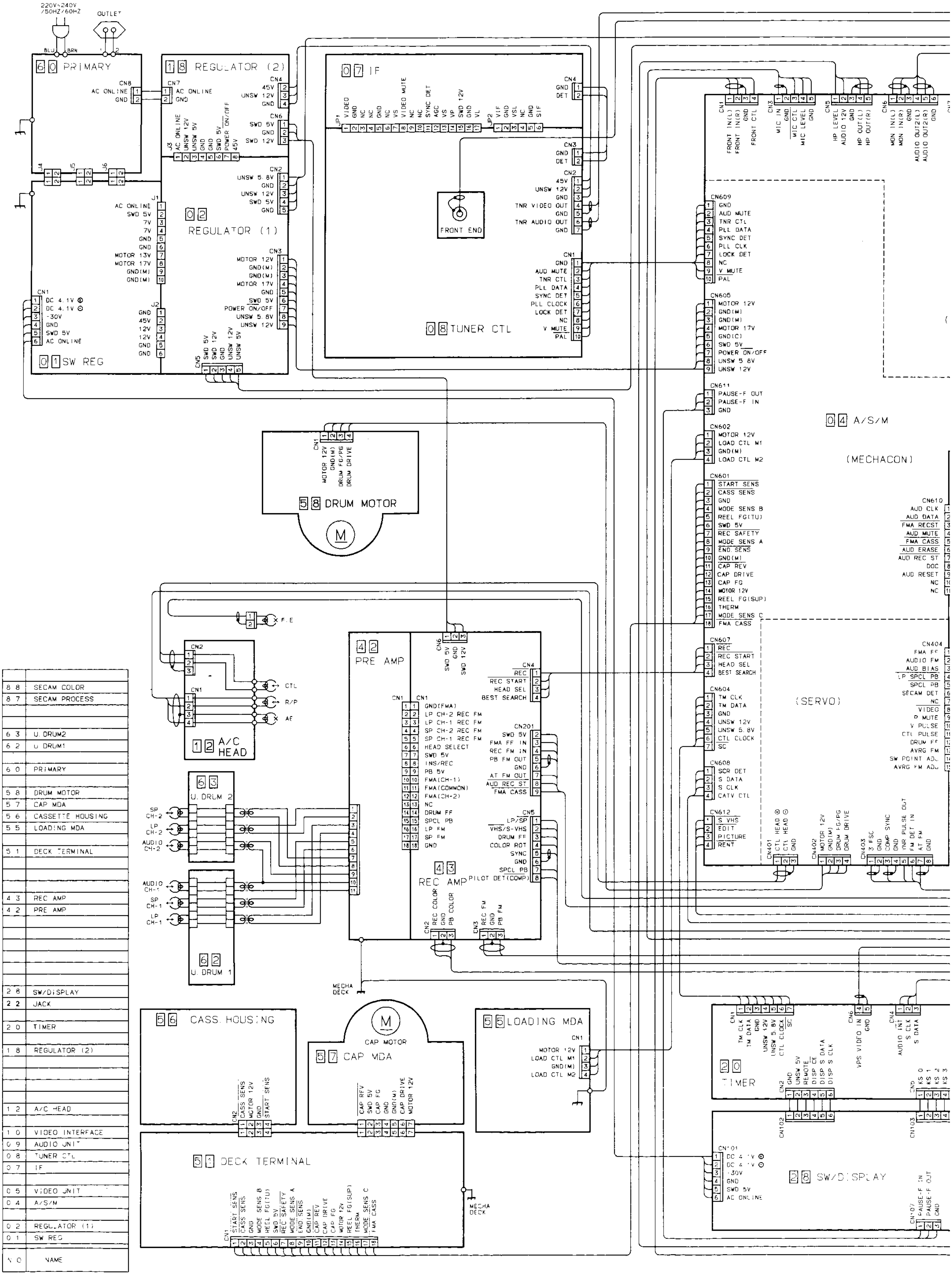
3. Chip diode



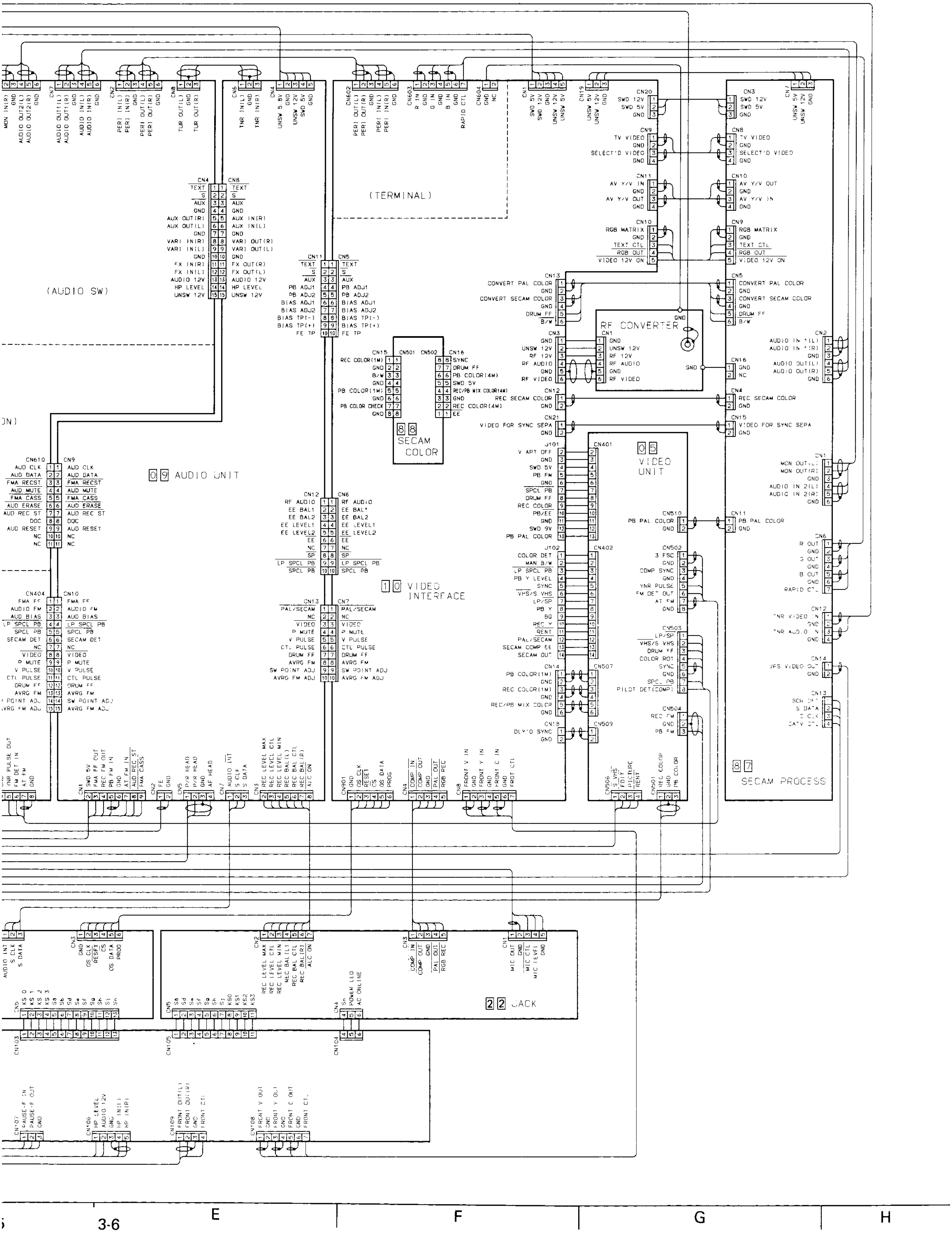
**Note:** The digital transistor includes built in resistors. If features small size and high reliability. Both PNP and NPN types are available.

**Uses:** Inverter, interface, driver circuits.

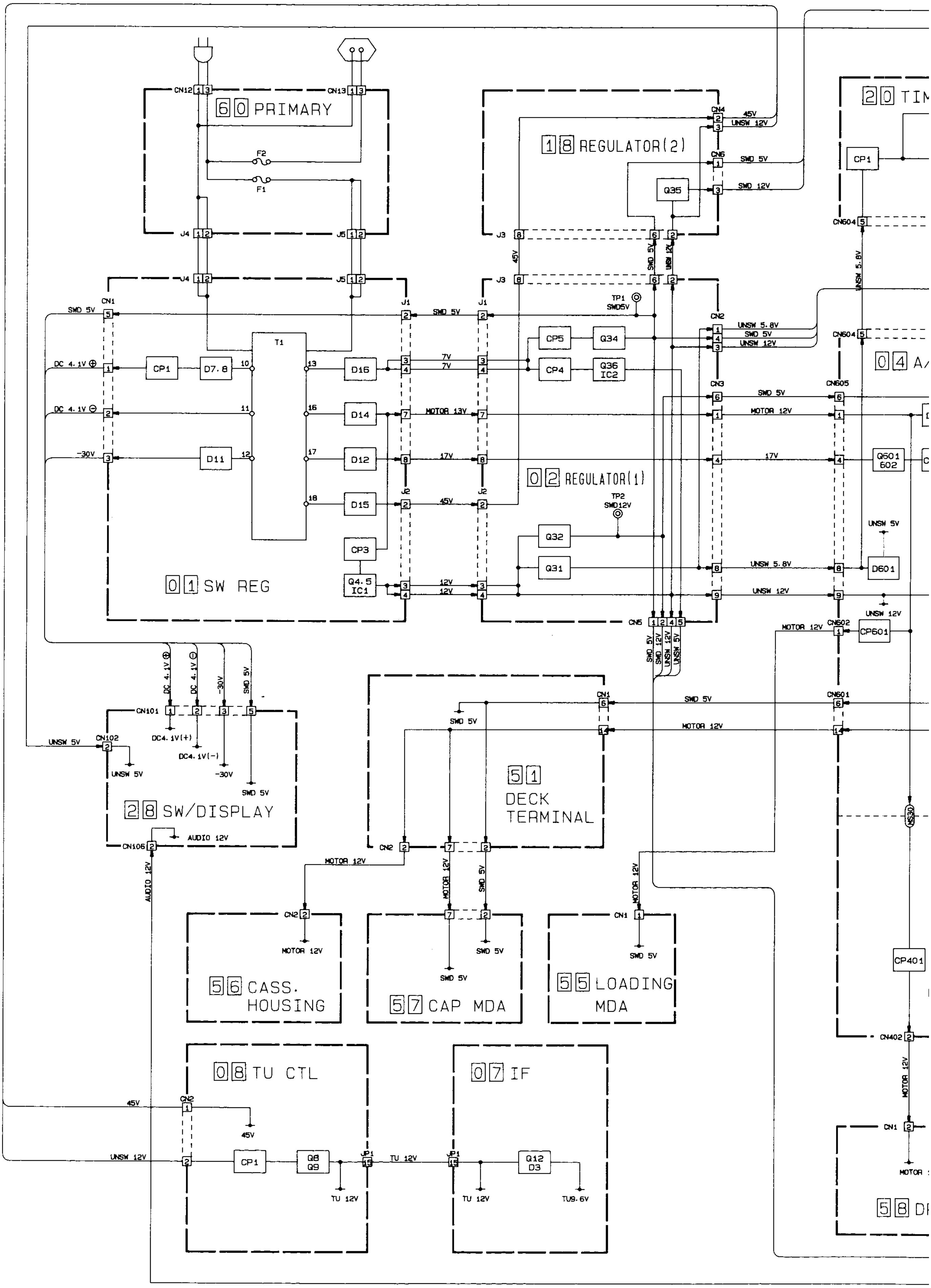
## 3.3 BOARD INTERCONNECTION


220V~240V /50HZ/60HZ
OUTLET
BLU
BRN
60 PRIMARY
CN8
AC ONLINE
GND
18 REGULATOR (2)
CN7
CN4
45V
UNSW 12V
CN6
SWD 5V
SWD 12V
J3
J4
J5
J6
CN2
UNSW 5.8V
UNSW 12V
02 REGULATOR (1)
J1
7V
MOTOR 13V
MOTOR 17V
GND(M)
CN3
MOTOR 12V
MOTOR 17V
POWER ON/OFF
CN1
DC 4.1V ⊕
DC 4.1V ⊖
-30V
J2
01 SW REG
CN5
07 IF
JP1
VIDEO
VIDEO MUTE
SYNC DET
AGC
VL
JP2
VIF
SIF
FRONT END
TNR VIDEO OUT
TNR AUDIO OUT
AUD MUTE
TNR CTL
PLL DATA
SYNC DET
PLL CLOCK
LOCK DET
V MUTE
PAL
08 TUNER CTL
58 DRUM MOTOR
MOTOR 12V
DRUM FG/PG
DRUM DRIVE
M
F.E
CTL
R/P
AE
12 A/C HEAD
63 U.DRUM 2
SP CH-2
LP CH-2
AUDIO CH-2
AUDIO CH-1
SP CH-1
LP CH-1
62 U.DRUM 1
42 PRE AMP
GND(FMA)
LP CH-2 REC FM
LP CH-1 REC FM
SP CH-2 REC FM
SP CH-1 REC FM
HEAD SELECT
INS/REC
PB 5V
FMA(CH-1)
FMA(COMMON)
FMA(CH-2)
NC
DRUM FF
SPCL PB
LP FM
SP FM
43 REC AMP
PILOT DET(COMP)
REC START
HEAD SEL
BEST SEARCH
CN201
FMA FF IN
REC FM IN
PB FM OUT
AT FM OUT
AUD REC ST
FMA CASS
LP/SP
VHS/S-VHS
COLOR ROT
SYNC
REC COLOR
PB COLOR
REC FM
PB FM
MECHA DECK
56 CASS HOUSING
CASS SENS
START SENS
57 CAP MDA
CAP MOTOR
CAP REV
CAP FG
CAP DRIVE
55 LOADING MDA
LOAD CTL M1
LOAD CTL M2
51 DECK TERMINAL
START SENS
MODE SENS B
REEL FG(TU)
REC SAFETY
MODE SENS A
END SENS
REEL FG(SUP)
THERM
MODE SENS C
04 A/S/M
(MECHACON)
(SERVO)
FRONT IN(L)
FRONT IN(R)
FRONT CTL
MIC IN
MIC CTL
MIC LEVEL
HP LEVEL
AUDIO 12V
HP OUT(L)
HP OUT(R)
MON IN(L)
MON IN(R)
AUDIO OUT2(L)
AUDIO OUT2(R)
CN609
CN605
CN611
PAUSE-F OUT
PAUSE-F IN
CN602
CN601
CASS SENS
CN607
REC
CN604
TM CLK
TM DATA
CTL CLOCK
SC
CN608
SCR DET
S DATA
S CLK
CATV CTL
CN612
S VHS
EDIT
PICTURE
RENT
CN610
AUD CLK
AUD DATA
FMA RECST
FMA CASS
AUD ERASE
AUD REC ST
DOC
AUD RESET
CN404
FMA FF
AUDIO FM
AUD BIAS
LP SPCL PB
SPCL PB
SECAM DET
V PULSE
CTL PULSE
AVRG FM
SW POINT ADJ
AVRG FM ADJ
CN401
CN402
CN403
3.58 FSC
COMP SYNC
TNR PULSE OUT
FM DET IN
AT FM
20 TIMER
VPS VIDEO IN
AUDIO INT
REMOTE
DISP S DATA
DISP S CLK
KS 0
KS 1
KS 2
KS 3
CN102
CN103
28 SW/DISPLAY
CN101
AC ONLINE
CN107
6
5
4
3
2
1
A
B
C

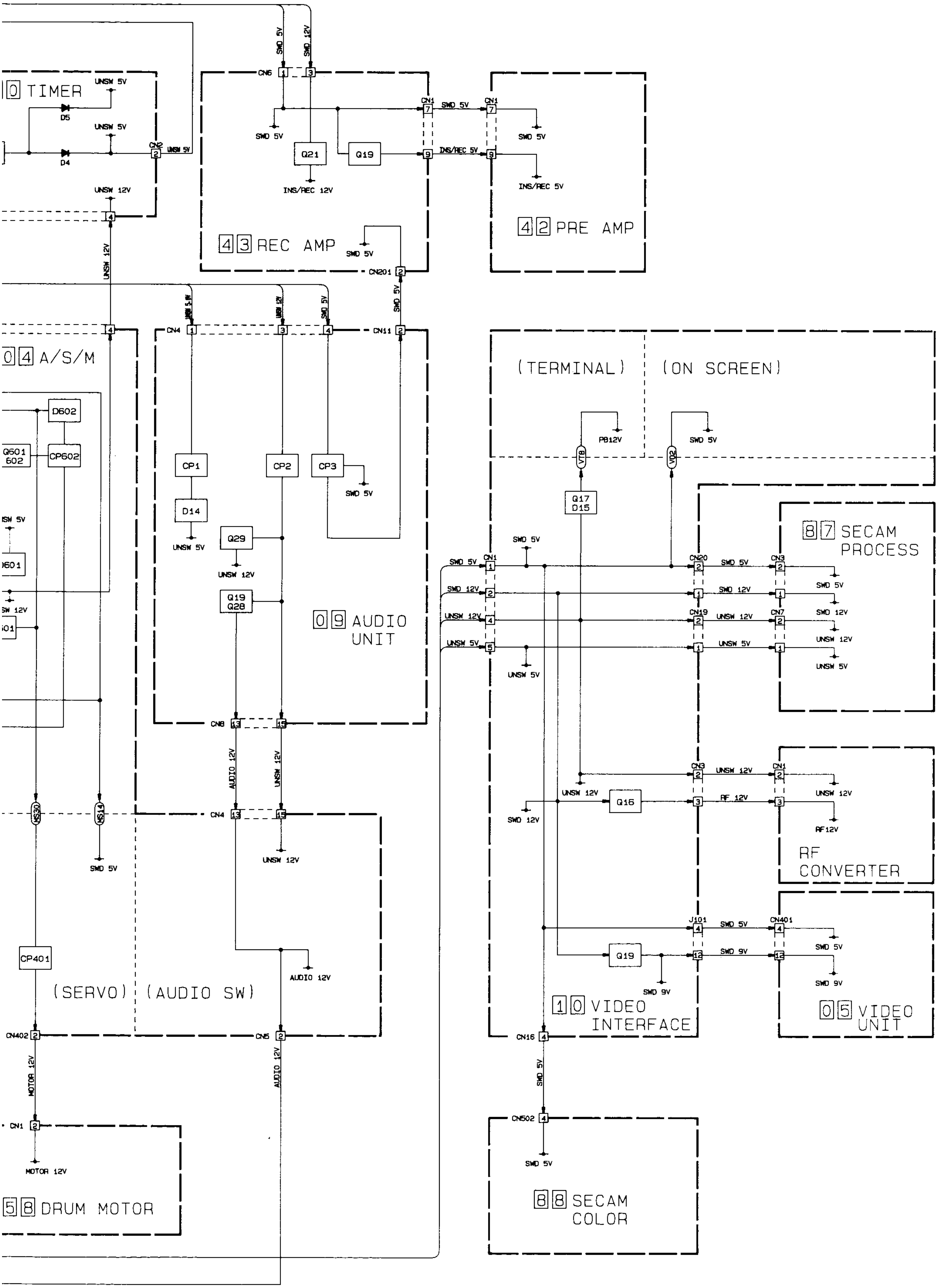
| NO | NAME |
|---|---|
| | |
| 8 8 | SECAM COLOR |
| 8 7 | SECAM PROCESS |
| | |
| | |
| 6 3 | U. DRUM2 |
| 6 2 | U. DRUM1 |
| | |
| 6 0 | PRIMARY |
| | |
| 5 8 | DRUM MOTOR |
| 5 7 | CAP MDA |
| 5 6 | CASSETTE HOUSING |
| 5 5 | LOADING MDA |
| | |
| 5 1 | DECK TERMINAL |
| | |
| | |
| | |
| 4 3 | REC AMP |
| 4 2 | PRE AMP |
| | |
| | |
| | |
| | |
| | |
| | |
| 2 8 | SW/DISPLAY |
| 2 2 | JACK |
| | |
| 2 0 | TIMER |
| | |
| 1 8 | REGULATOR (2) |
| | |
| | |
| | |
| | |
| 1 2 | A/C HEAD |
| | |
| 1 0 | VIDEO INTERFACE |
| 0 9 | AUDIO UNIT |
| 0 8 | TUNER CTL |
| 0 7 | IF |
| | |
| 0 5 | VIDEO UNIT |
| 0 4 | A/S/M |
| | |
| 0 2 | REGULATOR (1) |
| 0 1 | SW REG |


(AUDIO SW)
09 AUDIO UNIT
10 VIDEO INTERFACE
88 SECAM COLOR
05 VIDEO UNIT
87 SECAM PROCESS
22 JACK
RF CONVERTER
(TERMINAL)
CN4
CN8
TEXT
S
AUX
GND
AUX OUT(R)
AUX OUT(L)
AUX IN(R)
AUX IN(L)
VARI IN(R)
VARI IN(L)
VARI OUT(R)
VARI OUT(L)
FX IN(R)
FX IN(L)
FX OUT(R)
FX OUT(L)
AUDIO 12V
HP LEVEL
UNSW 12V
CN11
CN5
PB ADJ1
PB ADJ2
BIAS ADJ1
BIAS ADJ2
BIAS TP(-)
BIAS TP(+)
FE TP
CN610
CN9
AUD CLK
AUD DATA
FMA RECST
AUD MUTE
FMA CASS
AUD ERASE
AUD REC ST
DOC
AUD RESET
NC
CN404
CN10
FMA FF
AUDIO FM
AUD BIAS
LP SPCL PB
SPCL PB
SECAM DET
VIDEO
P MUTE
V PULSE
CTL PULSE
DRUM FF
AVRG FM
SW POINT ADJ
AVRG FM ADJ
CN12
CN6
RF AUDIO
EE BAL1
EE BAL2
EE LEVEL1
EE LEVEL2
EE
SP
CN13
CN7
PAL/SECAM
CN15
CN501
CN502
CN16
REC COLOR(1M)
B/W
PB COLOR(1M)
PB COLOR CHECK
SYNC
PB COLOR(4M)
SWD 5V
REC/PB MIX COLOR(4M)
REC COLOR(4M)
CN20
SWD 12V
CN9
TV VIDEO
SELECT'D VIDEO
CN11
AV Y/V IN
AV Y/V OUT
CN10
RGB MATRIX
TEXT CTL
RGB OUT
VIDEO 12V ON
CN13
CONVERT PAL COLOR
CONVERT SECAM COLOR
DRUM FF
CN3
CN1
RF 12V
RF VIDEO
CN12
REC SECAM COLOR
CN21
VIDEO FOR SYNC SEPA
J101
CN401
V APT OFF
PB FM
SPCL PB
REC COLOR
PB/EE
SWD 9V
PB PAL COLOR
CN510
J102
CN402
COLOR DET
MAN B/W
PB Y LEVEL
VHS/S VHS
LP/SP
PB Y
BG
REC Y
RENT
SECAM COMP EE
SECAM OUT
CN14
CN507
CN18
CN509
DLY'D SYNC
CN502
3 FSC
COMP SYNC
YNR PULSE
FM DET OUT
AT FM
CN503
COLOR ROT
PILOT DET(COMP)
CN504
REC FM
CN2
AUDIO IN 1(L)
AUDIO IN 1(R)
AUDIO OUT(L)
AUDIO OUT(R)
CN16
CN4
CN15
MON OUT(L)
MON OUT(R)
AUDIO IN 2(L)
AUDIO IN 2(R)
CN6
R OUT
G OUT
B OUT
RAPID CTL
TNR VIDEO IN
TNR AUDIO IN
VPS VIDEO OUT
SCH
S DATA
S CLK
DATV CTL
CN7
CN2
CN8
CN6
CN602
CN603
CN604
CN19
MON IN(R)
AUDIO OUT2(L)
AUDIO OUT2(R)
AUDIO OUT1(L)
AUDIO OUT1(R)
AUDIO IN(L)
AUDIO IN(R)
PERI IN(L)
PERI IN(R)
PERI OUT(L)
PERI OUT(R)
TUR OUT(L)
TUR OUT(R)
TNR IN(L)
TNR IN(R)
UNSW 5.8V
UNSW 12V
SWD 5V
R IN
G IN
B IN
SWD 12V
UNSW 5V
YNR PULSE OUT
FM DET IN
SWD 5V CUT
FMA FF OUT
REC FM IN
PB FM IN
AT FM IN
AUD REC ST
FMA CASS
FE
P/R HEAD
AF HEAD
AUDIO INT
S CLK
S DATA
REC LEVEL MAX
REC LEVEL CTL
REC LEVEL MIN
REC BAL(L)
REC BAL CTL
REC BAL(R)
ALC ON
CN901
OS CLK
RESET
CS
OS DATA
PROG
COMP IN
COMP OUT
PAL OUT
RGB REC
FRONT V IN
FRONT Y IN
FRONT C IN
FRONT CTL
CN506
S VHS
EDIT
PICTURE
RENT
CN501
REC COLOR
PB COLOR
MIC OUT
MIC CTL
MIC LEVEL
CN5
KS 0
KS 1
KS 2
KS 3
S8
S9
Sa
Sb
Sc
Sd
Se
Sf
Sg
Sh
S1
Sn
POWER LED
AC ONLINE
CN103
CN105
CN104
CN107
PAUSE-F IN
PAUSE-F OUT
CN106
HP LEVEL
HP IN(L)
HP IN(R)
CN109
FRONT OUT(L)
FRONT OUT(R)
FRONT CTL
CN108
FRONT V OUT
FRONT Y OUT
FRONT C OUT
E
F
G
H

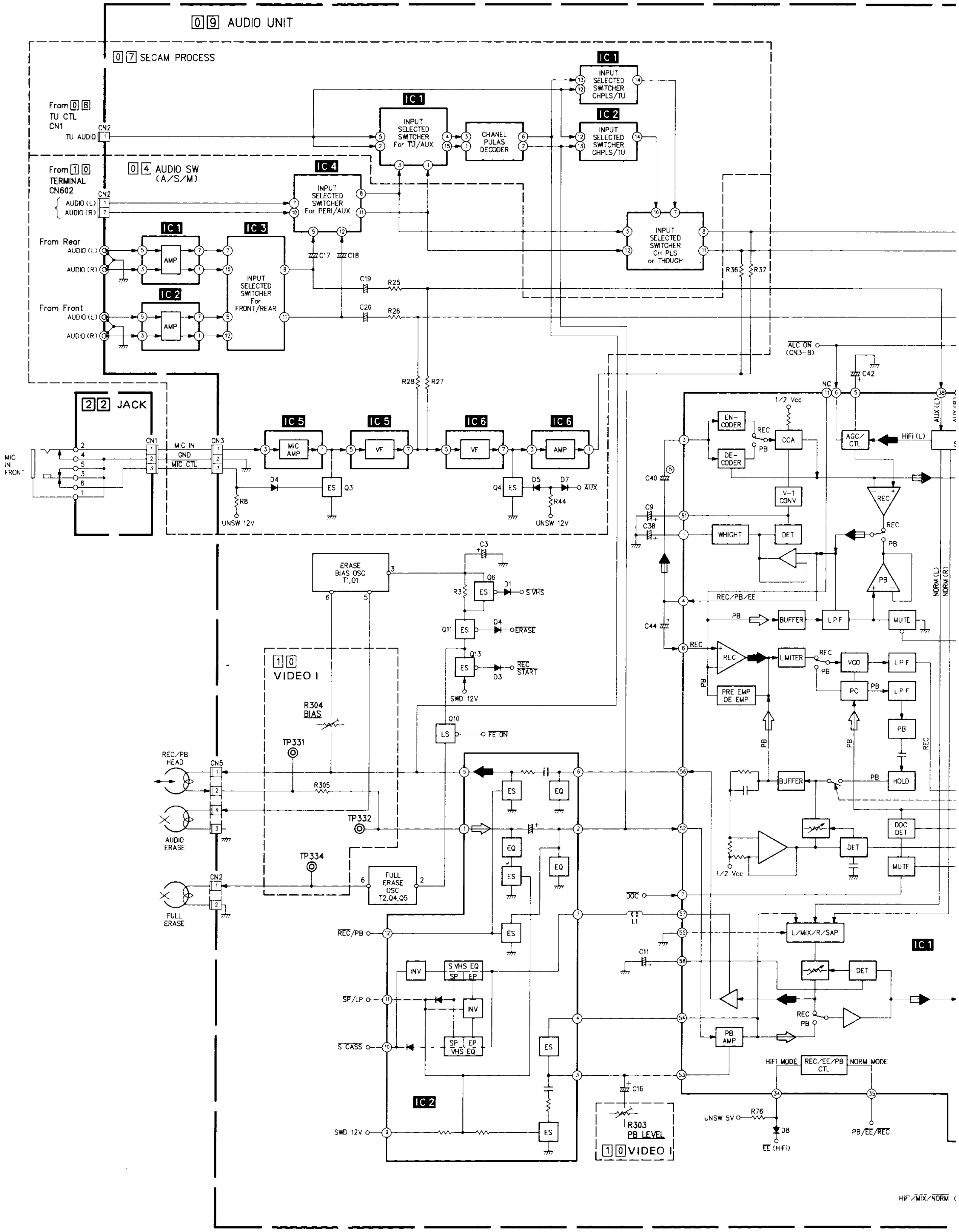
## 3.4 POWER SYSTEM BLOCK DIAGRAM



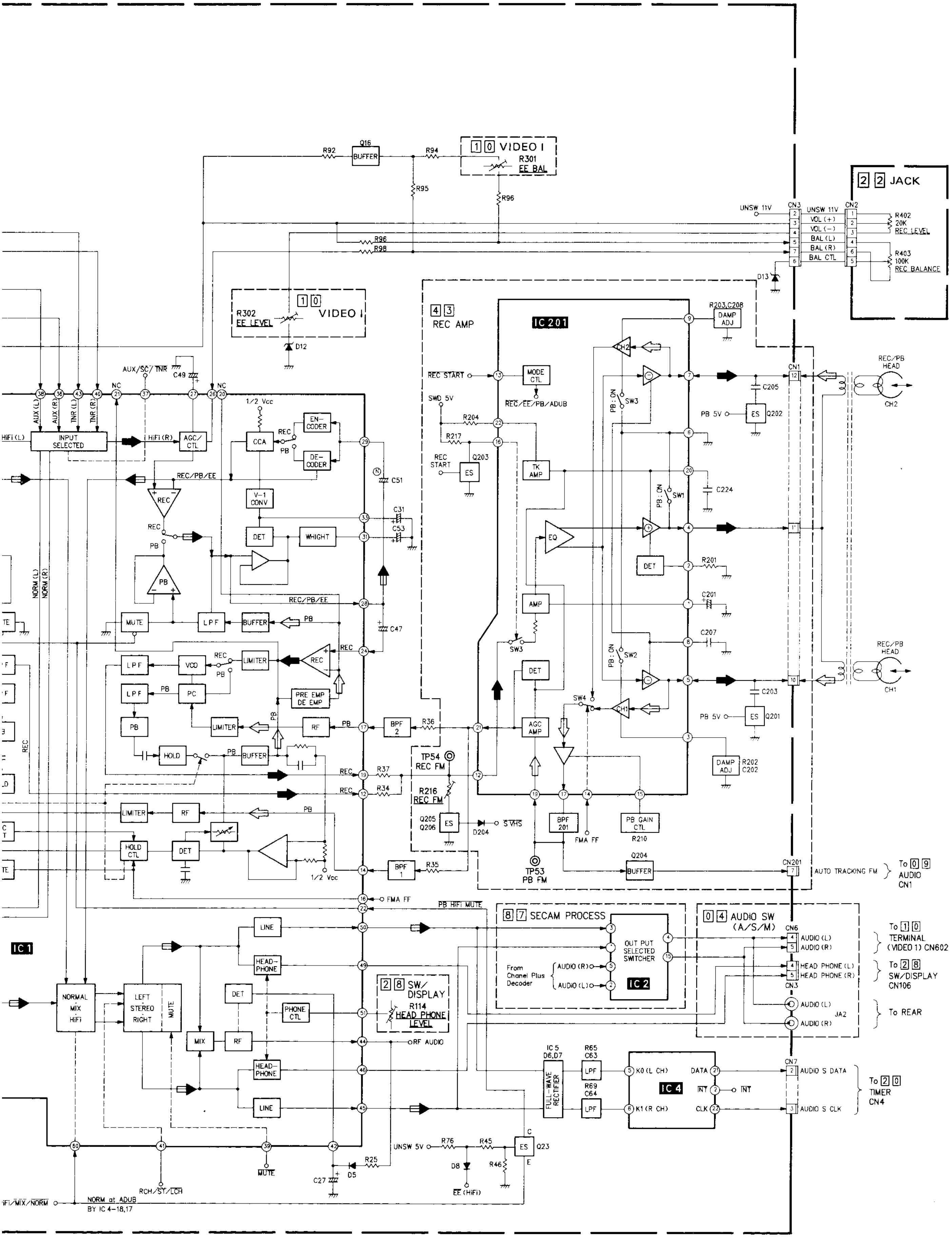
60 PRIMARY
CN12
CN13
F1
F2
J4
J5
18 REGULATOR(2)
CN4
45V
UNSW 12V
CN6
SWD 5V
SWD 12V
Q35
J3
01 SW REG
CN1
SWD 5V
DC 4.1V ⊕
DC 4.1V ⊖
-30V
CP1
D7.8
T1
D11
D16
D14
D12
D15
CP3
Q4.5
IC1
J1
J2
7V
MOTOR 13V
17V
45V
12V
02 REGULATOR(1)
TP1
SWD5V
TP2
SWD12V
CP5
Q34
CP4
Q36
IC2
Q32
Q31
CN2
UNSW 5.8V
CN3
MOTOR 12V
CN5
SWD 5V
SWD 12V
UNSW 12V
UNSW 5V
20 TIM
CP1
CN604
04 A/
CN605
Q601
602
D601
CN602
CP601
CN601
CP401
CN402
CN1
58 DI
28 SW/DISPLAY
CN101
CN102
CN106
DC4.1V(+)
DC4.1V(-)
AUDIO 12V
51 DECK TERMINAL
56 CASS. HOUSING
57 CAP MDA
55 LOADING MDA
08 TU CTL
Q8
Q9
JP1
TU 12V
07 IF
Q12
D3
TU9.6V
6
5
4
3
2
1
A
B
C


10 TIMER
UNSW 5V
D5
D4
CN2
UNSW 12V
SWD 5V
SWD 12V
CN6
43 REC AMP
Q21
Q19
INS/REC 12V
CN1
INS/REC 5V
CN201
42 PRE AMP
04 A/S/M
D602
Q601
602
CP602
601
CN4
CN11
UNSW 5.9V
09 AUDIO UNIT
CP1
CP2
CP3
D14
Q29
Q19
Q28
CN8
AUDIO 12V
MS30
MS14
CP401
(SERVO)
(AUDIO SW)
AUDIO 12V
CN402
CN5
MOTOR 12V
58 DRUM MOTOR
(TERMINAL)
(ON SCREEN)
PB12V
VT8
VO2
Q17
D15
CN20
CN3
87 SECAM PROCESS
CN19
CN7
RF 12V
Q16
RF CONVERTER
J101
CN401
SWD 9V
10 VIDEO INTERFACE
05 VIDEO UNIT
CN16
CN502
88 SECAM COLOR

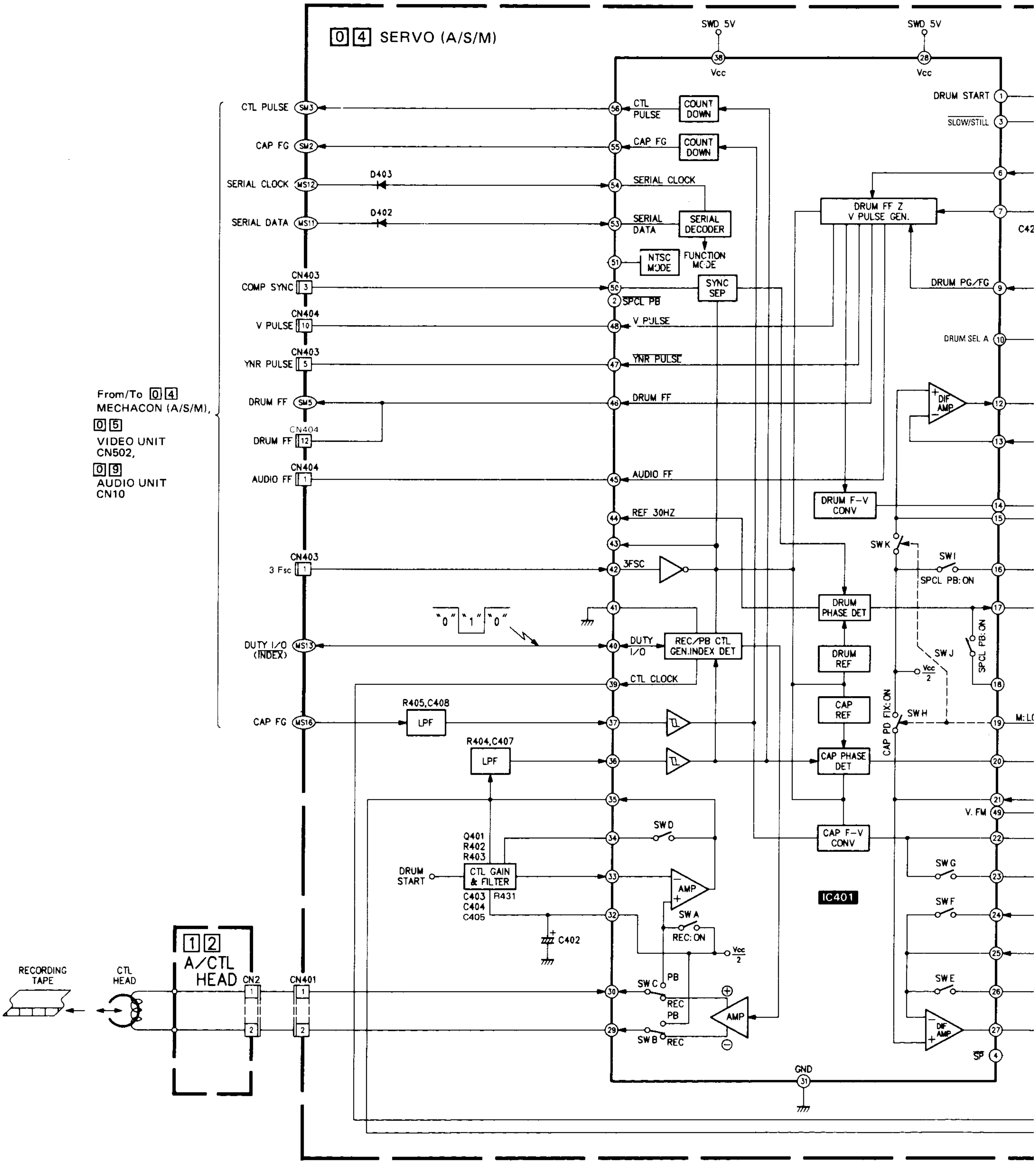
## 3.5 AUDIO BLOCK DIAGRAM



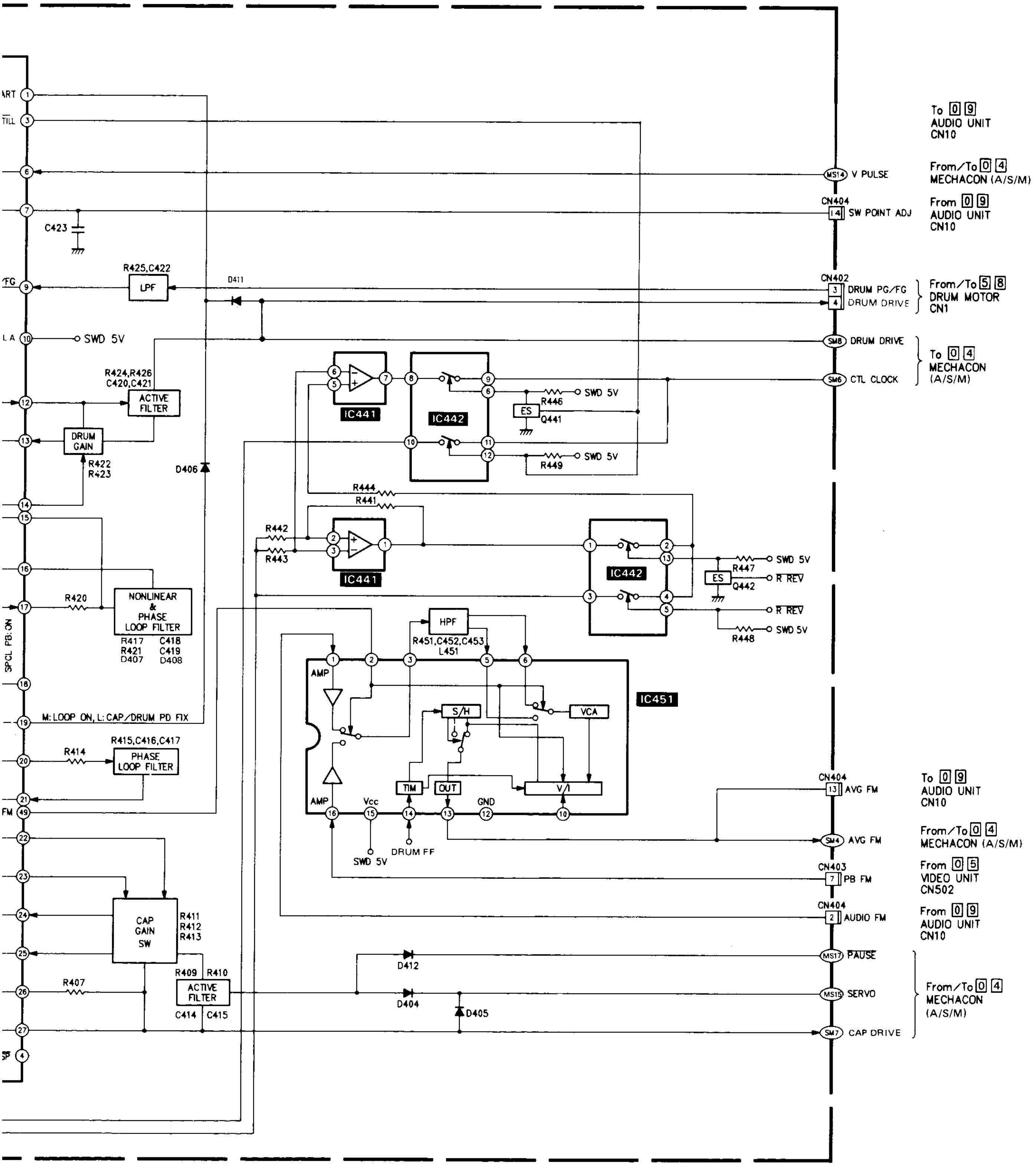
0 9 AUDIO UNIT
0 7 SECAM PROCESS
From 0 8 TU CTL CN1
TU AUDIO
CN2
IC1 INPUT SELECTED SWITCHER For TU/AUX
CHANEL PULAS DECODER
IC1 INPUT SELECTED SWITCHER CHPLS/TU
IC2 INPUT SELECTED SWITCHER CHPLS/TU
From 1 0 TERMINAL CN602
AUDIO (L)
AUDIO (R)
0 4 AUDIO SW (A/S/M)
IC4 INPUT SELECTED SWITCHER For PERI/AUX
INPUT SELECTED SWITCHER CH PLS or THOUGH
From Rear
From Front
IC1 AMP
IC2 AMP
IC3 INPUT SELECTED SWITCHER For FRONT/REAR
C17
C18
C19
C20
R25
R26
R27
R28
R36
R37
2 2 JACK
MIC IN FRONT
CN1
CN3
MIC IN
GND
MIC CTL
IC5 MIC AMP
IC5 VF
IC6 VF
IC6 AMP
ES Q3
D4
R8
UNSW 12V
Q4 ES
D5
D7
AUX
R44
ERASE BIAS OSC T1,Q1
C3
Q6
D1
S VHS
R3
Q11 ES
ERASE
Q13 ES
D3
REC START
SWD 12V
Q10 ES
FE ON
1 0 VIDEO I
R304 BIAS
TP331
TP332
TP334
R305
REC/PB HEAD
CN5
AUDIO ERASE
FULL ERASE
FULL ERASE OSC T2,Q4,Q5
REC/PB
SP/LP
S CASS
SWD 12V
INV
S VHS EQ
SP EP
VHS EQ
EQ
ES
IC2
C16
R303 PB LEVEL
1 0 VIDEO I
ALC ON (CN3-8)
C42
NC
AUX (L)
EN-CODER
DE-CODER
REC
PB
1/2 Vcc
CCA
AGC/CTL
HiFi (L)
C40
C9
C38
V-1 CONV
DET
WHIGHT
REC/PB/EE
C44
BUFFER
LPF
MUTE
REC
LIMITER
VCO
PC
PRE EMP DE EMP
HOLD
DOC DET
DET
MUTE
DOC
L1
L/MIX/R/SAP
C11
DET
IC1
PB AMP
HiFi MODE
REC/EE/PB CTL
NORM MODE
UNSW 5V
R76
D8
EE (HiFi)
PB/EE/REC
NORM (L)
NORM (R)
HiFi/MIX/NORM


R92
Q16
BUFFER
R94
1 0 VIDEO I
R301
EE BAL
R95
R96
2 2 JACK
UNSW 11V
CN3
CN2
UNSW 11V
VOL (+)
VOL (−)
BAL (L)
BAL (R)
BAL CTL
R402
20K
REC LEVEL
R403
100K
REC BALANCE
R96
R98
D13
1 0
R302
EE LEVEL
VIDEO I
D12
4 3
REC AMP
IC201
R203,C208
DAMP
ADJ
REC START
MODE
CTL
REC/EE/PB/ADUB
SWD 5V
R204
R217
REC
START
Q203
ES
TK
AMP
CH2
PB : ON
SW3
C205
PB 5V
ES
Q202
C224
PB : ON
SW1
EQ
DET
R201
AMP
C201
SW3
C207
PB : ON
SW2
DET
SW4
CH1
C203
PB 5V
ES
Q201
AGC
AMP
DAMP
ADJ
R202
C202
TP54
REC FM
R216
REC FM
Q205
Q206
ES
D204
S VHS
BPF
201
FMA FF
PB GAIN
CTL
R210
Q204
BUFFER
TP53
PB FM
CN1
REC/PB
HEAD
CH2
REC/PB
HEAD
CH1
CN201
AUTO TRACKING FM
To 0 9
AUDIO
CN1
AUX/SC/TNR
C49
NC
NC
AUX (L)
AUX (R)
TNR (L)
TNR (R)
HiFi (L)
INPUT
SELECTED
HiFi (R)
AGC/
CTL
1/2 Vcc
CCA
REC
PB
EN-
CODER
DE-
CODER
C51
REC/PB/EE
REC
V-1
CONV
C31
C53
REC
PB
DET
WHIGHT
PB
NORM (L)
NORM (R)
REC/PB/EE
MUTE
LPF
BUFFER
PB
C47
REC
REC
LIMITER
REC
REC
LPF
VCO
PB
LPF
PC
PRE EMP
DE EMP
PB
LIMITER
RF
PB
BPF
2
R36
PB
HOLD
PB
BUFFER
REC
R37
REC
R34
LIMITER
RF
PB
HOLD
CTL
DET
1/2 Vcc
BPF
1
R35
FMA FF
PB HIFI MUTE
IC1
LINE
HEAD-
PHONE
DET
PHONE
CTL
NORMAL
MIX
HiFi
LEFT
STEREO
RIGHT
MUTE
MIX
RF
HEAD-
PHONE
LINE
2 8 SW/
DISPLAY
R114
HEAD PHONE
LEVEL
RF AUDIO
8 7 SECAM PROCESS
OUT PUT
SELECTED
SWITCHER
From
Chanel Plus
Decoder
AUDIO (R)
AUDIO (L)
IC2
0 4 AUDIO SW
(A/S/M)
CN6
AUDIO (L)
AUDIO (R)
HEAD PHONE (L)
HEAD PHONE (R)
CN3
AUDIO (L)
AUDIO (R)
JA2
To 1 0
TERMINAL
(VIDEO 1) CN602
To 2 8
SW/DISPLAY
CN106
To REAR
IC5
D6,D7
FULL-WAVE
RECTIFIER
R65
C63
LPF
R69
C64
LPF
K0 (L CH)
K1 (R CH)
IC4
DATA
INT
CLK
INT
CN7
AUDIO S DATA
AUDIO S CLK
To 2 0
TIMER
CN4
UNSW 5V
R76
R45
ES
Q23
C
E
D8
R46
EE (HiFi)
R25
D5
C27
MUTE
RCH/ST/LCH
HiFi/MIX/NORM
NORM at ADUB
BY IC 4-18,17

## 3.6 SERVO BLOCK DIAGRAM

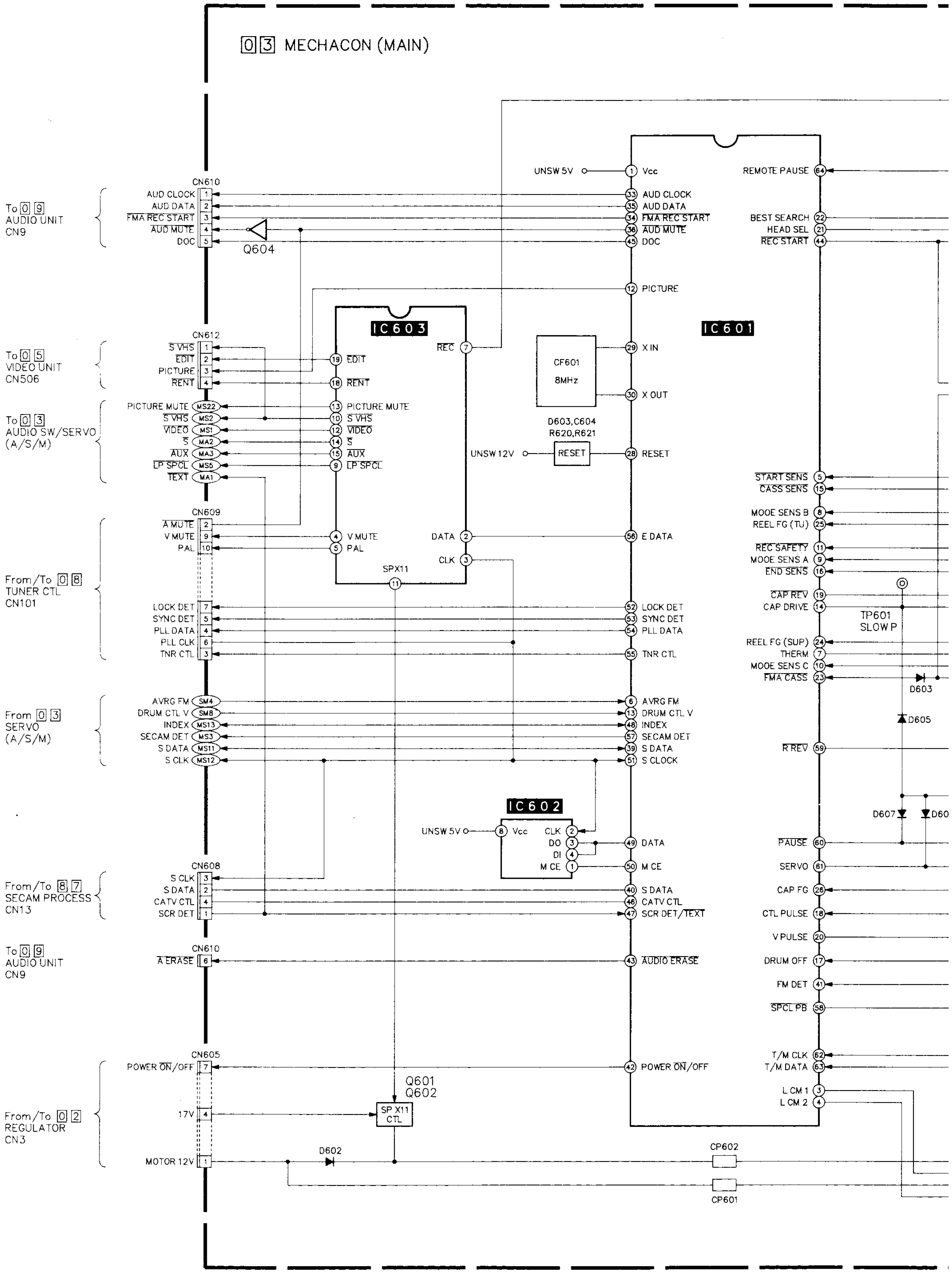


0 4 SERVO (A/S/M)
SWD 5V
38 Vcc
SWD 5V
28 Vcc
CTL PULSE SM3
56 CTL PULSE
COUNT DOWN
CAP FG SM2
55 CAP FG
COUNT DOWN
SERIAL CLOCK MS12
D403
54 SERIAL CLOCK
SERIAL DATA MS11
D402
53 SERIAL DATA
SERIAL DECODER
FUNCTION MODE
51 NTSC MODE
CN403
COMP SYNC 3
50
SYNC SEP
2 SPCL PB
CN404
V PULSE 10
48 V PULSE
CN403
YNR PULSE 5
47 YNR PULSE
From/To 0 4 MECHACON (A/S/M),
0 5 VIDEO UNIT CN502,
0 9 AUDIO UNIT CN10
DRUM FF SM5
46 DRUM FF
CN404
DRUM FF 12
CN404
AUDIO FF 1
45 AUDIO FF
44 REF 30HZ
43
CN403
3 Fsc 1
42 3FSC
41
"0" "1" "0"
DUTY I/O (INDEX) MS13
40 DUTY I/O
REC/PB CTL GEN.INDEX DET
39 CTL CLOCK
R405,C408
CAP FG MS16
LPF
37
R404,C407
LPF
36
35
SWD
34
Q401 R402 R403
DRUM START
CTL GAIN & FILTER
C403 C404 C405
R431
33
AMP
32
SW A
REC:ON
C402
Vcc/2
RECORDING TAPE
CTL HEAD
1 2 A/CTL HEAD
CN2
CN401
30
SW C
PB
REC
PB
AMP
29
SW B
REC
GND
31
DRUM START 1
SLOW/STILL 3
6
DRUM FF Z V PULSE GEN.
7
C42
DRUM PG/FG 9
DRUM SEL A 10
DIF AMP
12
13
DRUM F-V CONV
14
15
SW K
SW I
SPCL PB:ON
16
DRUM PHASE DET
17
SPCL PB:ON
SW J
DRUM REF
Vcc/2
18
CAP REF
CAP PD FIX:ON
SW H
19
M:L
CAP PHASE DET
20
21
V. FM 49
CAP F-V CONV
22
IC401
SW G
23
SW F
24
25
SW E
26
DIF AMP
27
SP 4

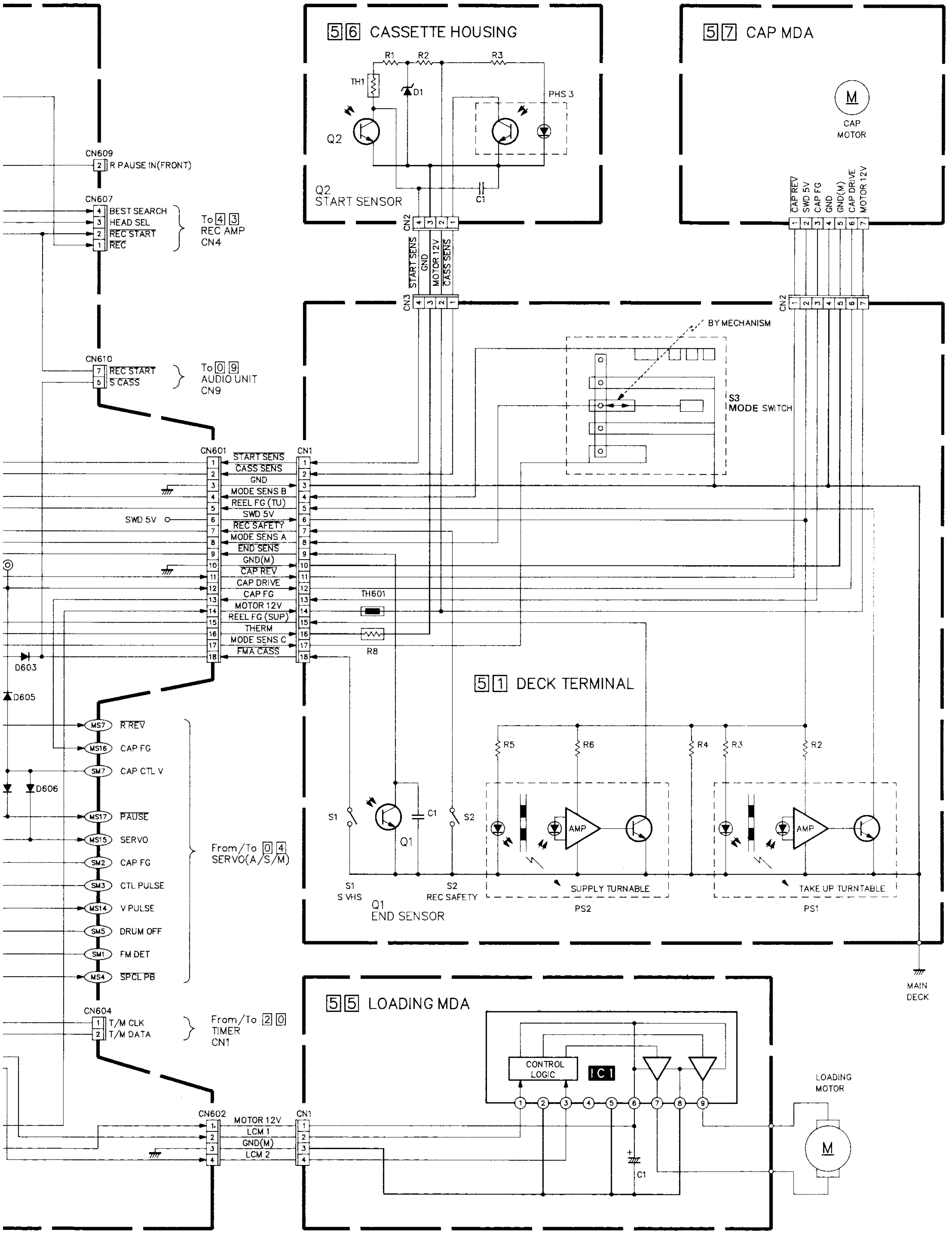


ART
TILL
C423
R425,C422
LPF
FG
D411
L A
SWD 5V
R424,R426
C420,C421
ACTIVE FILTER
DRUM GAIN
R422
R423
D406
IC441
IC442
ES
Q441
R446
R449
SWD 5V
R444
R441
R442
R443
IC441
IC442
R447
R448
Q442
R REV
R420
NONLINEAR & PHASE LOOP FILTER
R417 C418
R421 C419
D407 D408
SPCL PB: ON
HPF
R451,C452,C453
L451
IC451
AMP
S/H
VCA
TIM
OUT
V/I
Vcc
GND
SWD 5V
DRUM FF
M: LOOP ON, L: CAP/DRUM PD FIX
R415,C416,C417
R414
PHASE LOOP FILTER
FM
CAP GAIN SW
R411
R412
R413
R409
R410
R407
ACTIVE FILTER
C414
C415
D412
D404
D405
SP
To 09 AUDIO UNIT CN10
MS14 V PULSE
From/To 04 MECHACON (A/S/M)
CN404
14 SW POINT ADJ
From 09 AUDIO UNIT CN10
CN402
3 DRUM PG/FG
4 DRUM DRIVE
From/To 58 DRUM MOTOR CN1
SM8 DRUM DRIVE
SM6 CTL CLOCK
To 04 MECHACON (A/S/M)
CN404
13 AVG FM
To 09 AUDIO UNIT CN10
SM4 AVG FM
From/To 04 MECHACON (A/S/M)
CN403
7 PB FM
From 05 VIDEO UNIT CN502
CN404
2 AUDIO FM
From 09 AUDIO UNIT CN10
MS17 PAUSE
MS15 SERVO
SM7 CAP DRIVE
From/To 04 MECHACON (A/S/M)

## 3.7 SYSTEM CTL BLOCK DIAGRAM

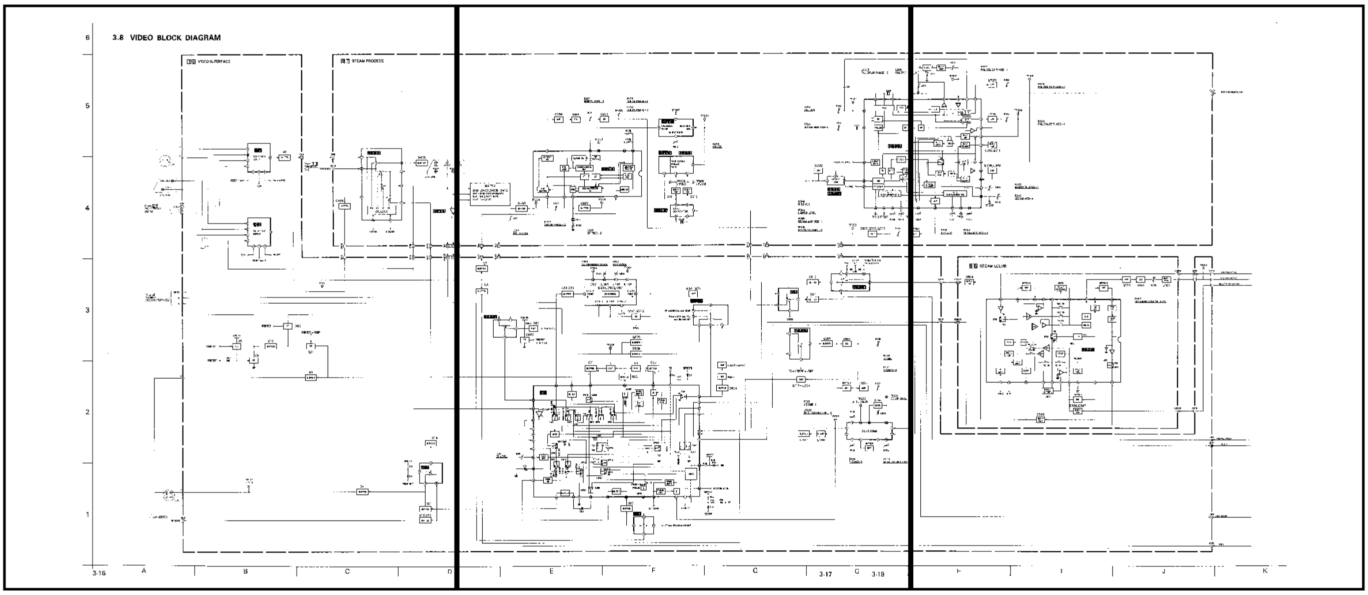


03 MECHACON (MAIN)
To 09 AUDIO UNIT CN9
CN610
AUD CLOCK 1
AUD DATA 2
FMA REC START 3
AUD MUTE 4
DOC 5
Q604
To 05 VIDEO UNIT CN506
CN612
S VHS 1
EDIT 2
PICTURE 3
RENT 4
To 03 AUDIO SW/SERVO (A/S/M)
PICTURE MUTE MS22
S VHS MS2
VIDEO MS1
S MA2
AUX MA3
LP SPCL MS5
TEXT MA1
From/To 08 TUNER CTL CN101
CN609
A MUTE 2
V MUTE 9
PAL 10
LOCK DET 7
SYNC DET 5
PLL DATA 4
PLL CLK 6
TNR CTL 3
From 03 SERVO (A/S/M)
AVRG FM SM4
DRUM CTL V SM8
INDEX MS13
SECAM DET MS3
S DATA MS11
S CLK MS12
From/To 87 SECAM PROCESS CN13
CN608
S CLK 3
S DATA 2
CATV CTL 4
SCR DET 1
To 09 AUDIO UNIT CN9
CN610
A ERASE 6
From/To 02 REGULATOR CN3
CN605
POWER ON/OFF 7
17V 4
MOTOR 12V 1
IC603
19 EDIT
18 RENT
13 PICTURE MUTE
10 S VHS
12 VIDEO
14 S
15 AUX
9 LP SPCL
4 V MUTE
5 PAL
REC 7
DATA 2
CLK 3
SPX11 11
CF601 8MHz
D603,C604 R620,R621
UNSW 12V RESET
IC602
UNSW 5V 8 Vcc
CLK 2
DO 3
DI 4
M CE 1
Q601 Q602
SP X11 CTL
D602
CP602
CP601
IC601
UNSW 5V 1 Vcc
33 AUD CLOCK
35 AUD DATA
34 FMA REC START
36 AUD MUTE
45 DOC
12 PICTURE
29 X IN
30 X OUT
28 RESET
56 E DATA
52 LOCK DET
53 SYNC DET
54 PLL DATA
55 TNR CTL
6 AVRG FM
13 DRUM CTL V
48 INDEX
57 SECAM DET
39 S DATA
51 S CLOCK
49 DATA
50 M CE
40 S DATA
46 CATV CTL
47 SCR DET/TEXT
43 AUDIO ERASE
42 POWER ON/OFF
REMOTE PAUSE 64
BEST SEARCH 22
HEAD SEL 21
REC START 44
START SENS 5
CASS SENS 15
MODE SENS B 8
REEL FG (TU) 25
REC SAFETY 11
MODE SENS A 9
END SENS 16
CAP REV 19
CAP DRIVE 14
TP601 SLOW P
REEL FG (SUP) 24
THERM 7
MODE SENS C 10
FMA CASS 23
D603
D605
R REV 59
D607
D60
PAUSE 60
SERVO 61
CAP FG 26
CTL PULSE 18
V PULSE 20
DRUM OFF 17
FM DET 41
SPCL PB 58
T/M CLK 62
T/M DATA 63
L CM 1 3
L CM 2 4
6
5
4
3
2
1
A
B
C

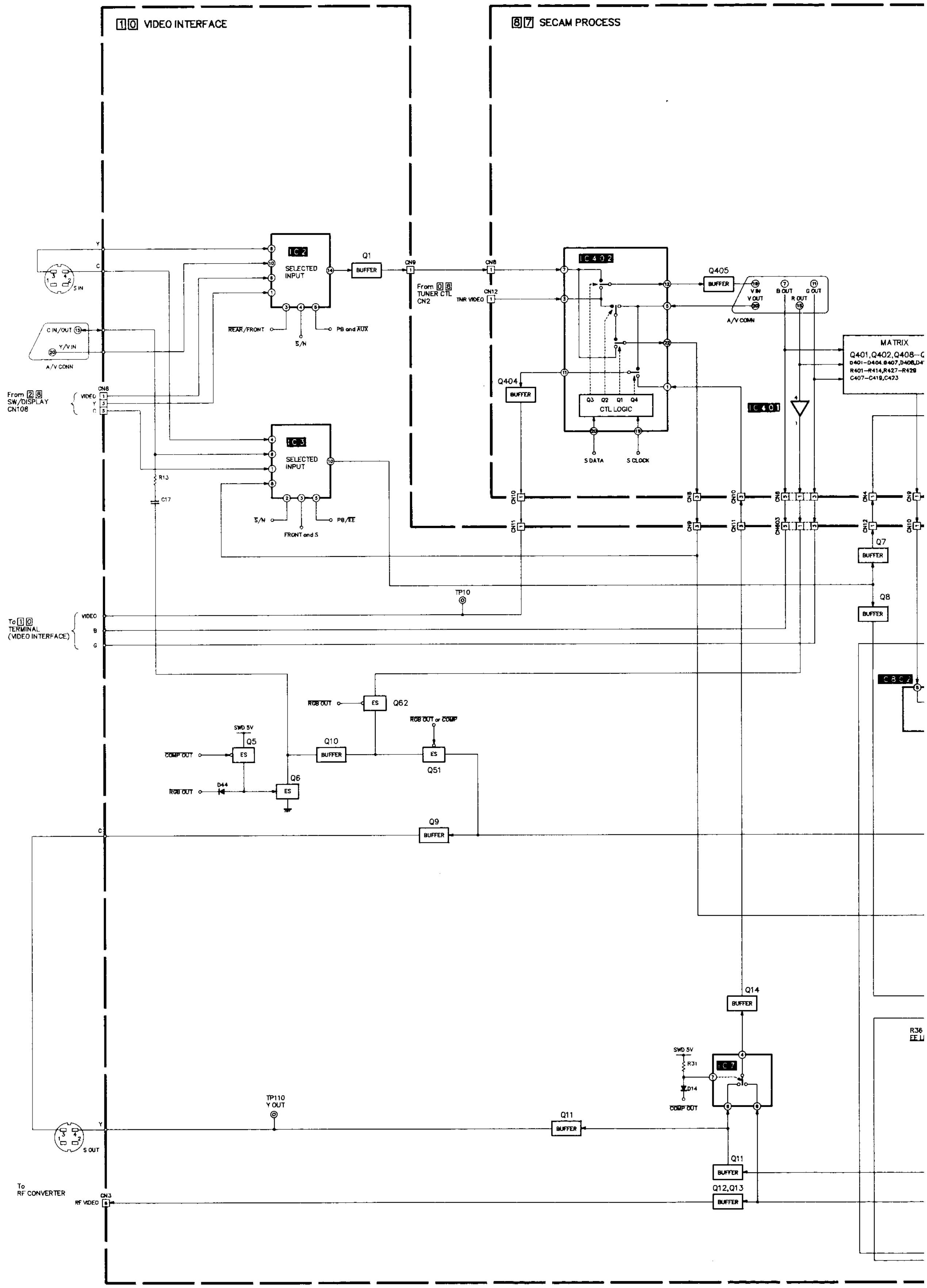


5 6 CASSETTE HOUSING
R1
R2
R3
TH1
D1
PHS 3
Q2
Q2
START SENSOR
C1
5 7 CAP MDA
M
CAP MOTOR
CAP REV
SWD 5V
CAP FG
GND
GND(M)
CAP DRIVE
MOTOR 12V
CN2
START SENS
GND
MOTOR 12V
CASS SENS
CN3
CN2
BY MECHANISM
S3
MODE SWITCH
CN609
R PAUSE IN(FRONT)
CN607
BEST SEARCH
HEAD SEL
REC START
REC
To 4 3
REC AMP
CN4
CN610
REC START
S CASS
To 0 9
AUDIO UNIT
CN9
CN601
CN1
START SENS
CASS SENS
GND
MODE SENS B
REEL FG (TU)
SWD 5V
REC SAFETY
MODE SENS A
END SENS
GND(M)
CAP REV
CAP DRIVE
CAP FG
MOTOR 12V
REEL FG (SUP)
THERM
MODE SENS C
FMA CASS
SWD 5V
TH601
R8
D603
D605
D606
5 1 DECK TERMINAL
R5
R6
R4
R3
R2
S1
C1
S2
Q1
AMP
AMP
S1
S VHS
S2
REC SAFETY
Q1
END SENSOR
SUPPLY TURNABLE
TAKE UP TURNTABLE
PS2
PS1
MAIN DECK
MS7
R REV
MS16
CAP FG
SM7
CAP CTL V
MS17
PAUSE
MS15
SERVO
SM2
CAP FG
SM3
CTL PULSE
MS14
V PULSE
SM5
DRUM OFF
SM1
FM DET
MS4
SPCL PB
From/To 0 4
SERVO(A/S/M)
CN604
T/M CLK
T/M DATA
From/To 2 0
TIMER
CN1
5 5 LOADING MDA
CONTROL LOGIC
IC1
LOADING MOTOR
M
C1
CN602
CN1
MOTOR 12V
LCM 1
GND(M)
LCM 2

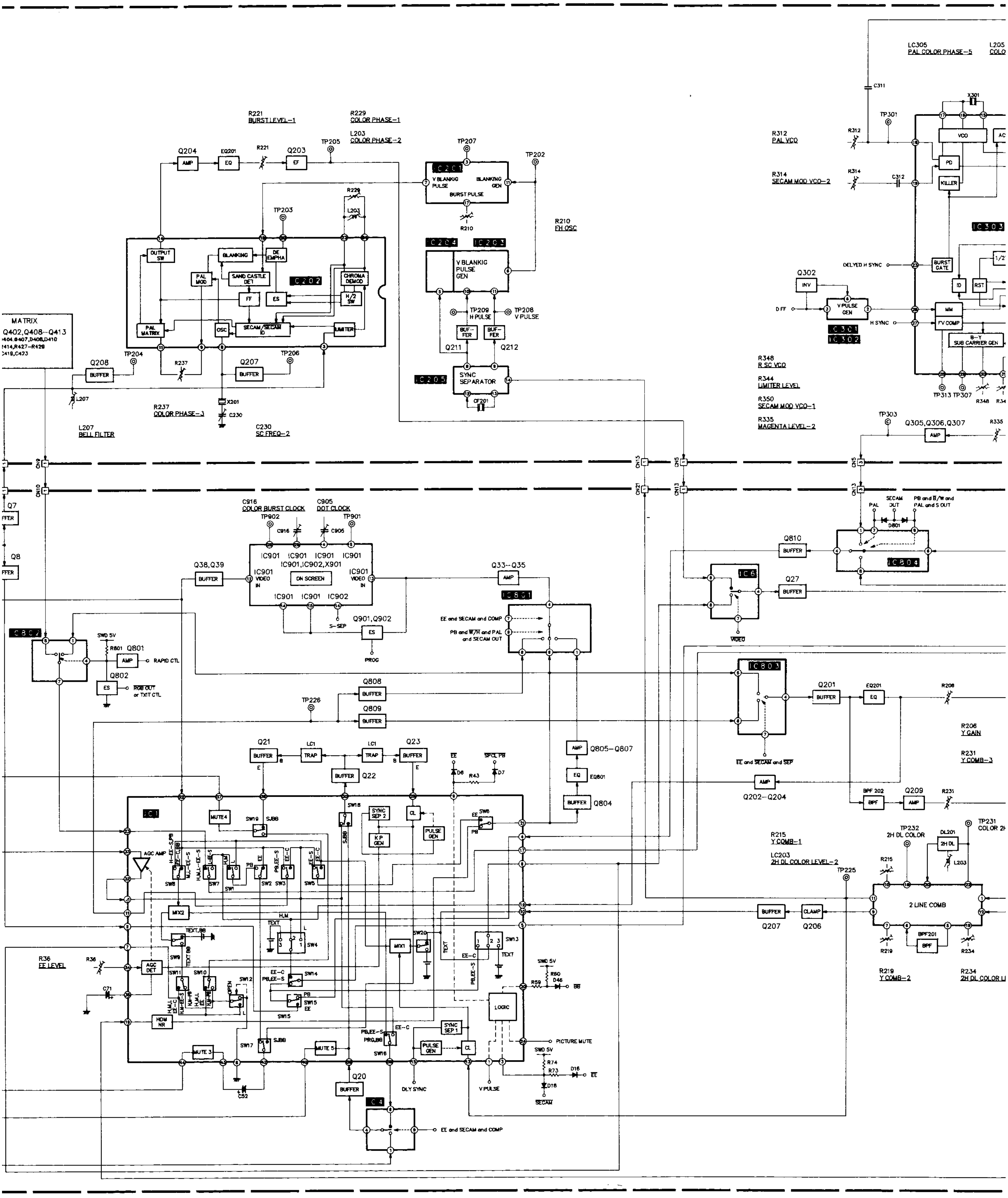
P3-16,17,18-a P3-16,17,18-b P3-16,17,18-c

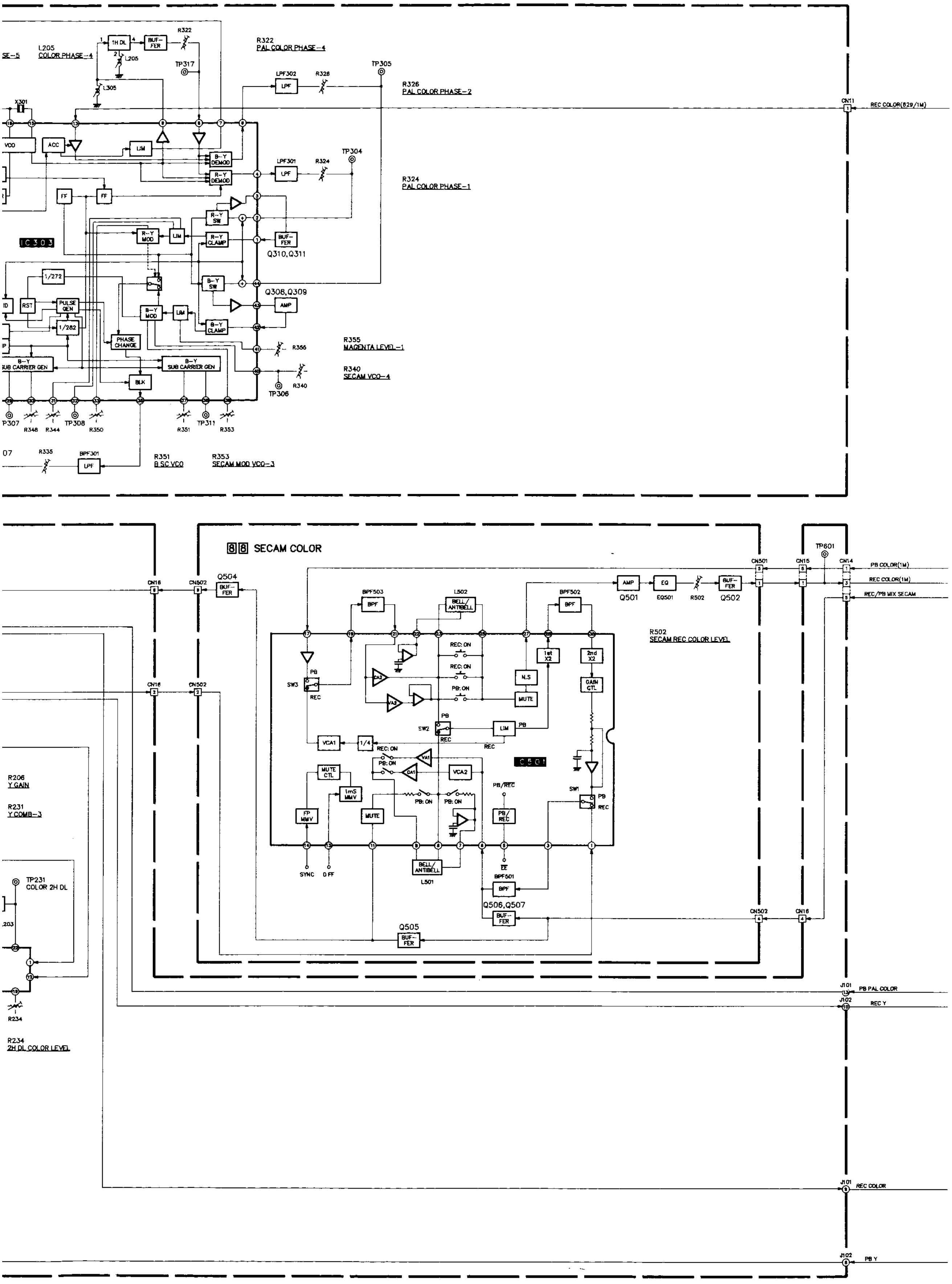

3.8 VIDEO BLOCK DIAGRAM
6
5
4
3
2
1
3-16
A
B
C
D
E
F
G
3-17
3-18
H
I
J
K

## 3.8 VIDEO BLOCK DIAGRAM

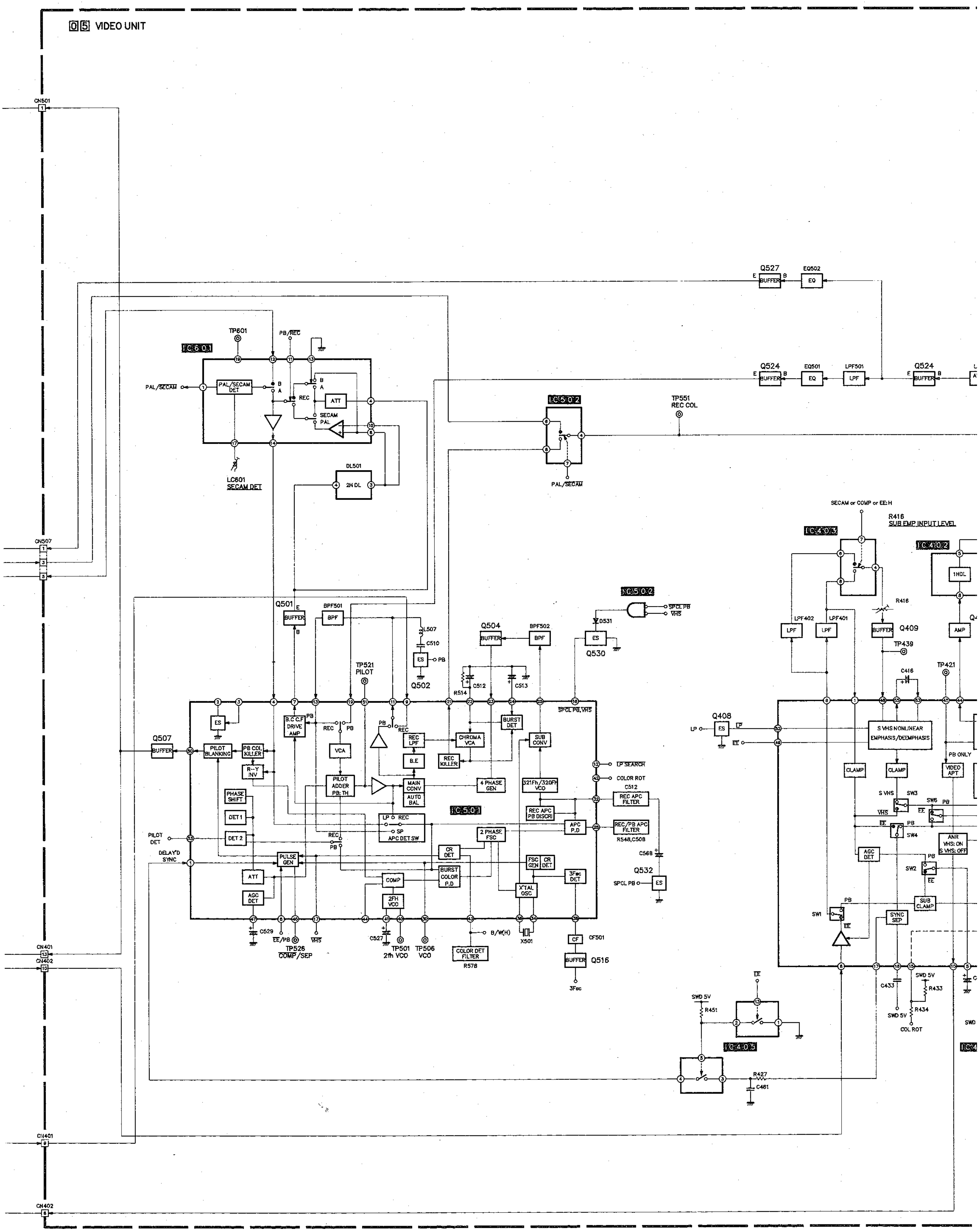


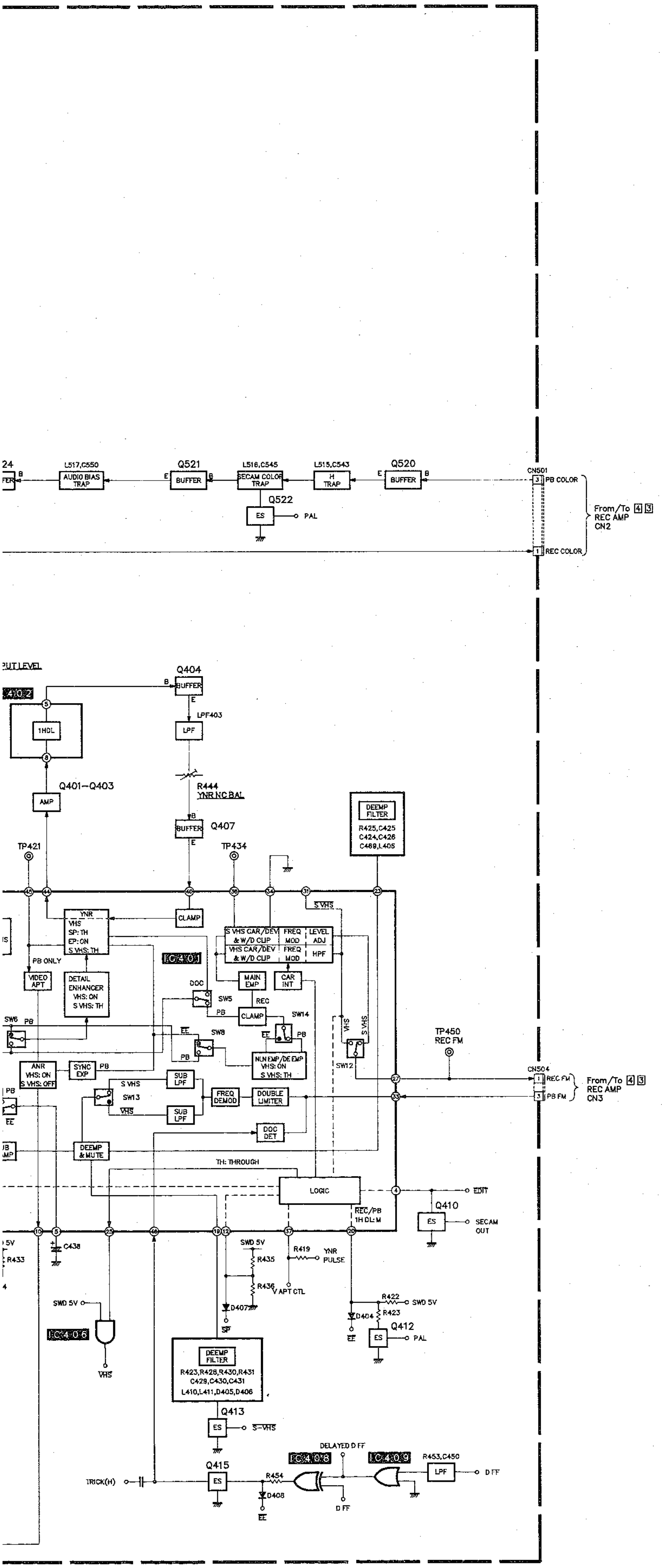
10 VIDEO INTERFACE
87 SECAM PROCESS
IC2
SELECTED INPUT
Q1
BUFFER
CN9
From 08 TUNER CTL CN2
CN8
CN12
TNR VIDEO
IC402
CTL LOGIC
Q3 Q2 Q1 Q4
S DATA
S CLOCK
Q405
BUFFER
V IN
V OUT
B OUT
R OUT
G OUT
A/V CONN
MATRIX
Q401,Q402,Q408
Q404
IC401
S IN
C IN/OUT
Y/V IN
REAR/FRONT
S/N
PB and AUX
From 28 SW/DISPLAY CN108
VIDEO
Y
C
IC3
SELECTED INPUT
R13
C17
FRONT and S
PB/EE
CN10
CN11
CN8
CN9
CN803
CN4
CN12
Q7
BUFFER
Q8
BUFFER
TP10
To 10 TERMINAL (VIDEO INTERFACE)
VIDEO
B
G
RGB OUT
ES
Q62
RGB OUT or COMP
SWD 5V
Q5
Q10
COMP OUT
Q51
D44
RGB OUT
Q6
Q9
BUFFER
Q14
BUFFER
SWD 5V
R31
IC7
D14
COMP OUT
TP110
Y OUT
Q11
BUFFER
S OUT
To RF CONVERTER
CN3
RF VIDEO
Q11
Q12,Q13
BUFFER
R36
6
5
4
3
2
1
A
B
C
D


R221
BURST LEVEL-1
R229
COLOR PHASE-1
L203
COLOR PHASE-2
Q204
AMP
EQ201
EQ
Q203
EF
TP205
TP207
IC201
V BLANKIG PULSE
BLANKING GEN
BURST PULSE
TP202
R210
R210
FH OSC
TP203
OUTPUT SW
BLANKING
DE EMPHA
PAL MOD
SAND CASTLE DET
CHROMA DEMOD
IC202
FF
ES
H/2 SW
PAL MATRIX
OSC
SECAM/SECAM ID
LIMITER
IC204
IC203
V BLANKIG PULSE GEN
TP209
H PULSE
TP208
V PULSE
BUF-FER
Q211
Q212
IC205
SYNC SEPARATOR
CF201
MATRIX
Q402,Q408-Q413
Q208
BUFFER
TP204
R237
Q207
BUFFER
TP206
X201
C230
L207
R237
COLOR PHASE-3
L207
BELL FILTER
C230
SC FREQ-2
LC305
PAL COLOR PHASE-5
L205
C311
X301
TP301
R312
PAL VCO
R314
SECAM MOD VCO-2
C312
VCO
PD
KILLER
IC303
DELYED H SYNC
BURST GATE
ID
RST
Q302
INV
V PULSE GEN
MM
FV COMP
H SYNC
B-Y SUB CARRIER GEN
IC301
IC302
R348
R SC VCO
R344
LIMITER LEVEL
R350
SECAM MOD VCO-1
R335
MAGENTA LEVEL-2
TP313
TP307
TP303
Q305,Q306,Q307
AMP
CN9
CN10
CN15
CN21
CN5
CN13
Q7
Q8
C916
COLOR BURST CLOCK
C905
DOT CLOCK
TP902
TP901
IC901
IC901,IC902,X901
VIDEO IN
ON SCREEN
VIDEO IN
IC902
Q38,Q39
BUFFER
Q33-Q35
AMP
IC801
EE and SECAM and COMP
PB and W/H and PAL and SECAM OUT
S-SEP
Q901,Q902
ES
PROG
SECAM OUT
PAL
PB and B/W and PAL and S OUT
D801
Q810
BUFFER
IC804
IC6
Q27
BUFFER
VIDEO
IC802
SWD 5V
R801
Q801
AMP
RAPID CTL
Q802
ES
RGB OUT or TXT CTL
Q808
BUFFER
TP226
Q809
BUFFER
IC803
Q201
BUFFER
EQ201
EQ
R206
R206
Y GAIN
R231
Y COMB-3
EE and SECAM and SEP
Q21
BUFFER
LC1
TRAP
Q23
BUFFER
Q22
BUFFER
EE
SPCL PB
D6
R43
D7
AMP
Q805-Q807
EQ
EQ801
BUFFER
Q804
AMP
Q202-Q204
BPF 202
BPF
Q209
AMP
R231
IC1
MUTE4
SW19
SJBB
SW18
SYNC SEP 2
KP GEN
CL
PULSE GEN
SW6
AGC AMP
SW8
SW7
SW1
SW2
SW3
SW5
R215
Y COMB-1
LC203
2H DL COLOR LEVEL-2
TP232
2H DL COLOR
TP231
DL201
2H DL
L203
TP225
MIX2
TEXT,BB
H,M
L
TEXT
SW4
MIX1
SW20
SW13
EE-C
PB,EE-S
BUFFER
CLAMP
Q207
Q206
2 LINE COMB
BPF201
BPF
R219
R234
R219
Y COMB-2
R234
2H DL COLOR L
R36
EE LEVEL
AGC DET
SW9
SW11
SW10
SW12
OPEN
SW14
SW15
SW5
SWD 5V
R60
D46
BB
R59
LOGIC
C71
HDM NR
SW17
SJBB
MUTE 5
SYNC SEP 1
PB,EE-S
PRG,BB
SW16
PULSE GEN
CL
PICTURE MUTE
SWD 5V
R74
R73
D16
EE
D18
SECAM
MUTE 3
C52
Q20
BUFFER
DLY SYNC
V PULSE
IC4
EE and SECAM and COMP



L205
COLOR PHASE-4
1H DL
BUF-FER
R322
R322
PAL COLOR PHASE-4
TP317
TP305
LPF302
LPF
R326
R326
PAL COLOR PHASE-2
L305
X301
CN11
REC COLOR(629/1M)
VCO
ACC
LIM
B-Y DEMOD
R-Y DEMOD
LPF301
R324
TP304
R324
PAL COLOR PHASE-1
FF
R-Y SW
R-Y MOD
R-Y CLAMP
BUF-FER
Q310,Q311
IC303
1/272
B-Y SW
Q308,Q309
AMP
RST
PULSE GEN
1/282
B-Y MOD
B-Y CLAMP
PHASE CHANGE
R355
MAGENTA LEVEL-1
R356
B-Y SUB CARRIER GEN
R340
SECAM VCO-4
BLK
R340
TP306
TP307
R348
R344
TP308
R350
R351
TP311
R353
R335
BPF301
R351
B SC VCO
R353
SECAM MOD VCO-3
88 SECAM COLOR
TP801
CN501
CN15
CN14
PB COLOR(1M)
REC COLOR(1M)
REC/PB MIX SECAM
Q504
CN18
CN502
AMP
EQ
Q501
EQ501
R502
Q502
BPF503
BPF
L502
BELL/ANTIBELL
BPF502
R502
SECAM REC COLOR LEVEL
REC: ON
PB: ON
1st X2
2nd X2
N.S
MUTE
GAIN CTL
SW3
PB
REC
SW2
LIM
VCA1
1/4
REC: ON
PB: ON
VA1
CA1
VCA2
IC501
SW1
MUTE CTL
1mS MMV
FP MMV
PB/REC
R206
Y GAIN
R231
Y COMB-3
SYNC
D.FF
BELL/ANTIBELL
L501
EE
BPF501
Q506,Q507
Q505
TP231
COLOR 2H DL
R234
R234
2H DL COLOR LEVEL
J101
PB PAL COLOR
J102
REC Y
J101
REC COLOR
J102
PB Y
H
I
J
K


05 VIDEO UNIT
CN501
CN507
CN401
CN402
IC601
TP601
PB/REC
PAL/SECAM
PAL/SECAM DET
REC
ATT
SECAM
PAL
LC601
SECAM DET
DL501
2H DL
IC502
PAL/SECAM
TP551
REC COL
Q527
EQ502
BUFFER
EQ
Q524
EQ501
LPF501
LPF
Q501
BPF501
BPF
L507
C510
ES
PB
Q502
TP521
PILOT
Q504
BPF502
C512
C513
R514
IC502
SPCL PB
VHS
D531
Q530
Q507
PILOT BLANKING
PB COL KILLER
R−Y INV
B.C C.F DRIVE AMP
VCA
PILOT ADDER PB: TH
MAIN CONV
AUTO BAL
REC LPF
B.E
CHROMA VCA
REC KILLER
BURST DET
SUB CONV
4 PHASE GEN
321Fh/320Fh VCO
REC APC PB DISCRI
APC P.D
IC501
PHASE SHIFT
DET1
DET 2
LP
SP
APC DET SW
2 PHASE FSC
CR DET
BURST COLOR P.D
COMP
2FH VCO
FSC GEN
XTAL OSC
3Fsc DET
ATT
AGC DET
PULSE GEN
PILOT DET
DELAY'D SYNC
SPCL PB,VHS
LP SEARCH
COLOR ROT
REC APC FILTER
REC/PB APC FILTER
R548,C508
C568
Q532
C529
EE/PB
TP526
COMP/SEP
C527
TP501
2fh VCO
TP506
VCO
B/W(H)
COLOR DET FILTER
R578
X501
CF
CF501
Q516
3Fsc
SECAM or COMP or EE:H
R416
SUB EMP INPUT LEVEL
IC403
IC402
1HDL
R418
LPF402
LPF401
Q409
TP439
C416
TP421
AMP
Q408
LP
EE
S VHS NONLINEAR EMPHASIS/DEEMPHASIS
CLAMP
S VHS
SW3
SW6
VHS
SW4
VIDEO APT
PB ONLY
ANR VHS: ON S VHS: OFF
AGC DET
SW2
SW1
SUB CLAMP
SYNC SEP
C433
SWD 5V
R433
R434
COL ROT
IC405
R451
R427
C461


Q521
BUFFER
L517,C550
AUDIO BIAS TRAP
L516,C545
SECAM COLOR TRAP
L515,C543
H TRAP
Q520
BUFFER
Q522
ES
PAL
CN501
3 PB COLOR
1 REC COLOR
From/To 4 3 REC AMP CN2
Q404
BUFFER
LPF403
LPF
1HDL
Q401~Q403
AMP
R444
YNR NC BAL
BUFFER
Q407
TP421
TP434
DEEMP FILTER
R425,C425
C424,C426
C489,L405
YNR
VHS
SP: TH
EP: ON
S VHS: TH
CLAMP
IC401
S VHS CAR/DEV & W/D CLIP
VHS CAR/DEV & W/D CLIP
FREQ MOD
LEVEL ADJ
HPF
MAIN EMP
CAR INT
PB ONLY
VIDEO APT
DETAIL ENHANCER
VHS: ON
S VHS: TH
DOC
SW5
SW6
SW8
SW12
SW13
SW14
NLN EMP/DE EMP
VHS: ON
S VHS: TH
ANR
VHS: ON
S VHS: OFF
SYNC EXP
SUB LPF
FREQ DEMOD
DOUBLE LIMITER
DOC DET
DEEMP & MUTE
TH: THROUGH
LOGIC
TP450
REC FM
CN504
1 REC FM
3 PB FM
From/To 4 3 REC AMP CN3
EDIT
Q410
ES
SECAM OUT
REC/PB
1H DL: M
C438
R433
SWD 5V
R435
R436
V APT CTL
R419
YNR PULSE
R422
R423
D404
D407
SP
Q412
PAL
IC406
VHS
DEEMP FILTER
R423,R428,R430,R431
C429,C430,C431
L410,L411,D405,D406
Q413
S-VHS
Q415
TRICK(H)
R454
D408
EE
DELAYED D FF
IC408
IC409
R453,C450
LPF
D FF

6

## 3.9 SW REG, REGLATOR (1), (2) AND PRIMARY SCHEMATIC DIAGRAM

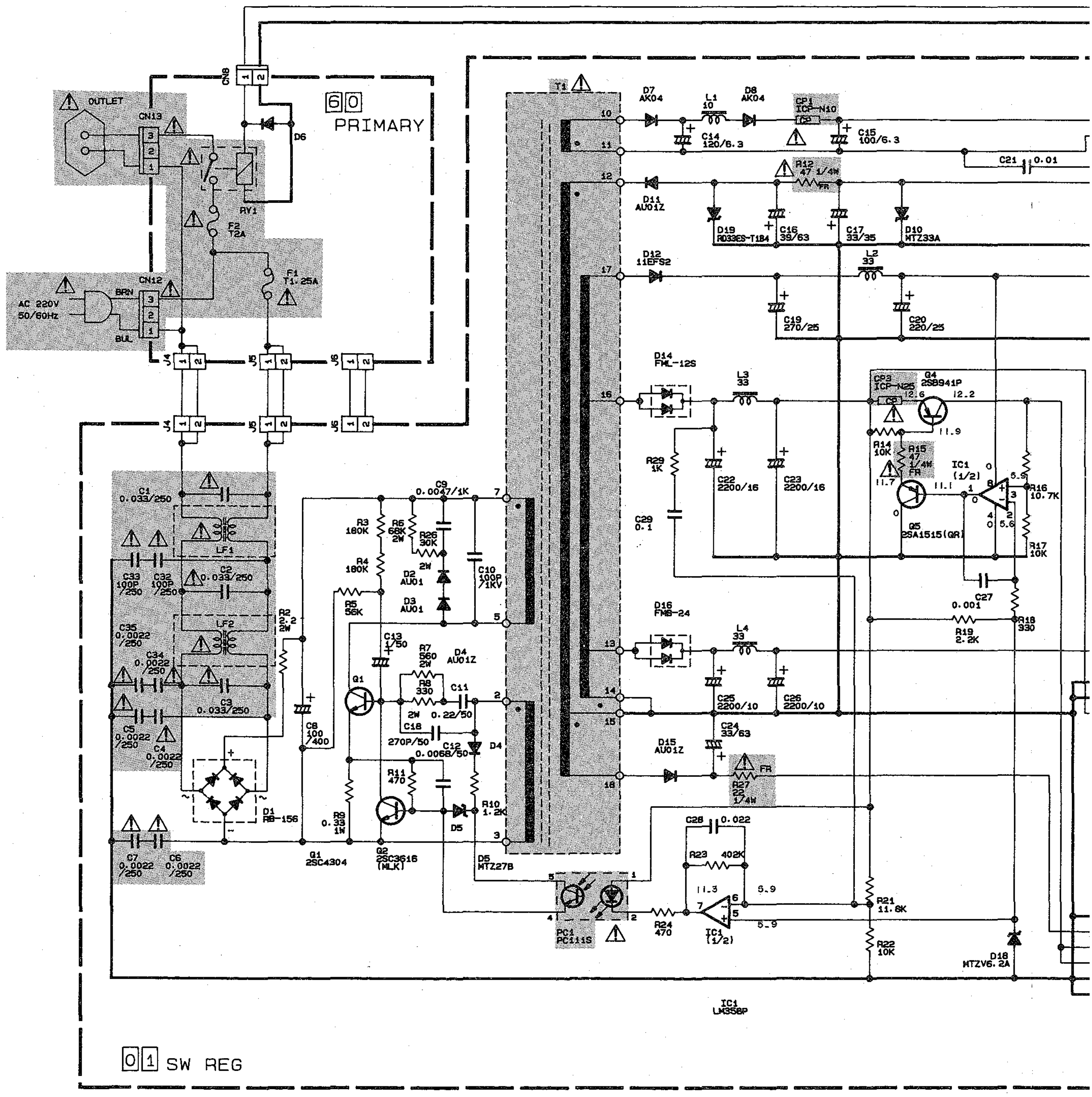
5

4

3

2

1

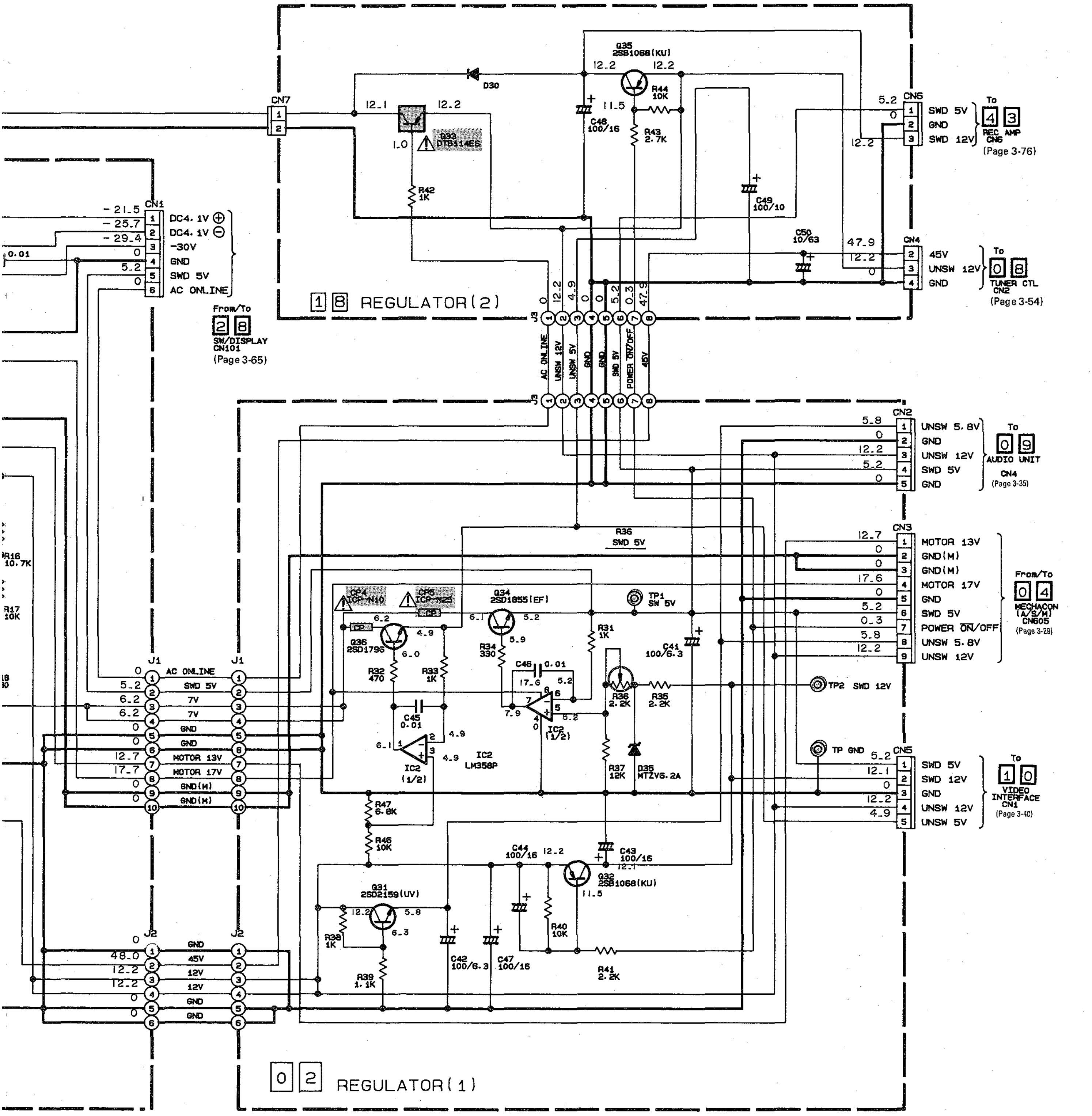


CN8
60 PRIMARY
OUTLET
CN13
D6
RY1
F2 T2A
F1 T1.25A
AC 220V 50/60Hz
BRN
BUL
CN12
J4
J5
J6
C1 0.033/250
LF1
C33 100P /250
C32 100P /250
C2 0.033/250
C35 0.0022 /250
C34 0.0022 /250
LF2
C3 0.033/250
C5 0.0022 /250
C4 0.0022 /250
R2 2.2 2W
D1 RB-156
C7 0.0022 /250
C6 0.0022 /250
C8 100 /400
C9 0.0047/1K
R3 180K
R6 68K 2W
R26 30K 2W
R4 180K
D2 AU01
D3 AU01
C10 100P /1KV
R5 56K
C13 1/50
R7 560 2W
D4 AU01Z
R8 330 2W
C11 0.22/50
C18 270P/50
C12 0.0068/50
D4
Q1
R11 470
R9 0.33 1W
R10 1.2K
D5
Q1 2SC4304
Q2 2SC3616 (MLK)
D5 MTZ27B
T1
D7 AK04
L1 10
D8 AK04
CP1 ICP-N10
CP
C14 120/6.3
C15 100/6.3
C21 0.01
D11 AU01Z
R12 47 1/4W
FR
D19 RD33ES-T1B4
C16 39/63
C17 33/35
D10 MTZ33A
D12 11EFS2
L2 33
C19 270/25
C20 220/25
D14 FML-12S
L3 33
CP3 ICP-N25
Q4 2SB941P
12.6
12.2
11.9
R14 10K
R15 47 1/4W FR
R29 1K
C22 2200/16
C23 2200/16
C29 0.1
11.7
11.1
Q5 2SA1515(QR)
IC1 (1/2)
5.9
5.6
R16 10.7K
R17 10K
C27 0.001
R19 2.2K
R18 330
D16 FMB-24
L4 33
C25 2200/10
C26 2200/10
C24 33/63
D15 AU01Z
R27 22 1/4W
FR
C28 0.022
R23 402K
11.3
5.9
5.9
R21 11.8K
R22 10K
R24 470
IC1 (1/2)
PC1 PC111S
D18 MTZV6.2A
IC1 LM358P
01 SW REG
10
11
12
17
16
13
14
15
18
7
5
2
3

A

B

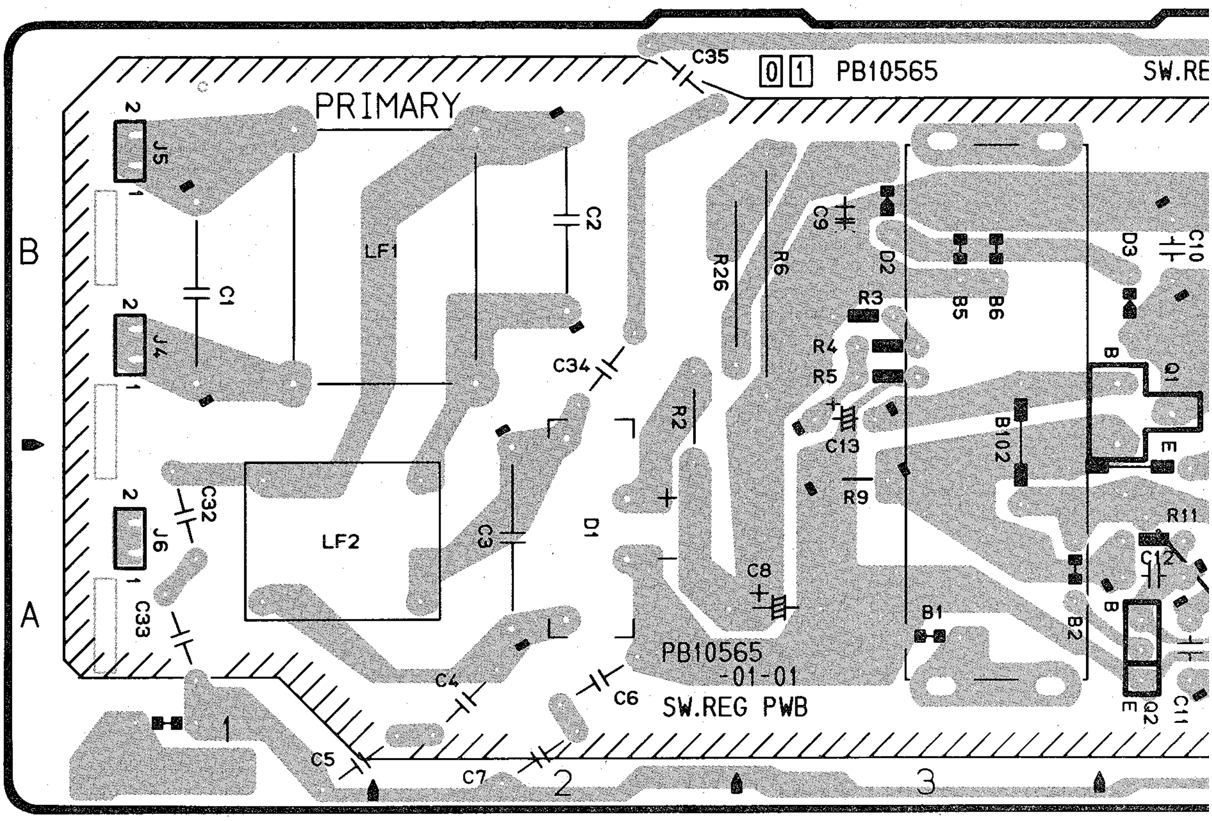
C



1 8 REGULATOR(2)
0 2 REGULATOR(1)
Q35 2SB1068(KU)
D30
Q33 DTB114ES
R42 1K
R44 10K
R43 2.7K
C48 100/16
C49 100/10
C50 10/63
CN7
CN6
SWD 5V
GND
SWD 12V
To 4 3 REC AMP CN6 (Page 3-76)
CN4
45V
UNSW 12V
GND
To 0 8 TUNER CTL CN2 (Page 3-54)
CN1
DC4.1V ⊕
DC4.1V ⊖
-30V
GND
SWD 5V
AC ONLINE
From/To 2 8 SW/DISPLAY CN101 (Page 3-65)
J3
AC ONLINE
UNSW 12V
UNSW 5V
GND
GND
SWD 5V
POWER ON/OFF
45V
CN2
UNSW 5.8V
GND
UNSW 12V
SWD 5V
GND
To 0 9 AUDIO UNIT CN4 (Page 3-35)
CN3
MOTOR 13V
GND(M)
GND(M)
MOTOR 17V
GND
SWD 5V
POWER ON/OFF
UNSW 5.8V
UNSW 12V
From/To 0 4 MECHACON (A/S/M) CN605 (Page 3-28)
R36 SWD 5V
CP4 ICP-N10
CP5 ICP-N25
Q36 2SD1796
Q34 2SD1855(EF)
TP1 SW 5V
R31 1K
R32 470
R33 1K
R34 330
C45 0.01
C46 0.01
C41 100/6.3
IC2 (1/2)
IC2 LM358P
R36 2.2K
R35 2.2K
R37 12K
D35 MTZV6.2A
TP2 SWD 12V
TP GND
CN5
SWD 5V
SWD 12V
GND
UNSW 12V
UNSW 5V
To 1 0 VIDEO INTERFACE CN1 (Page 3-40)
J1
AC ONLINE
SWD 5V
7V
7V
GND
GND
MOTOR 13V
MOTOR 17V
GND(M)
GND(M)
R47 6.8K
R46 10K
C44 100/16
C43 100/16
Q32 2SB1068(KU)
Q31 2SD2159(UV)
R38 1K
R39 1.1K
C42 100/6.3
C47 100/16
R40 10K
R41 2.2K
J2
GND
45V
12V
12V
GND
GND
R16 10.7K
R17 10K

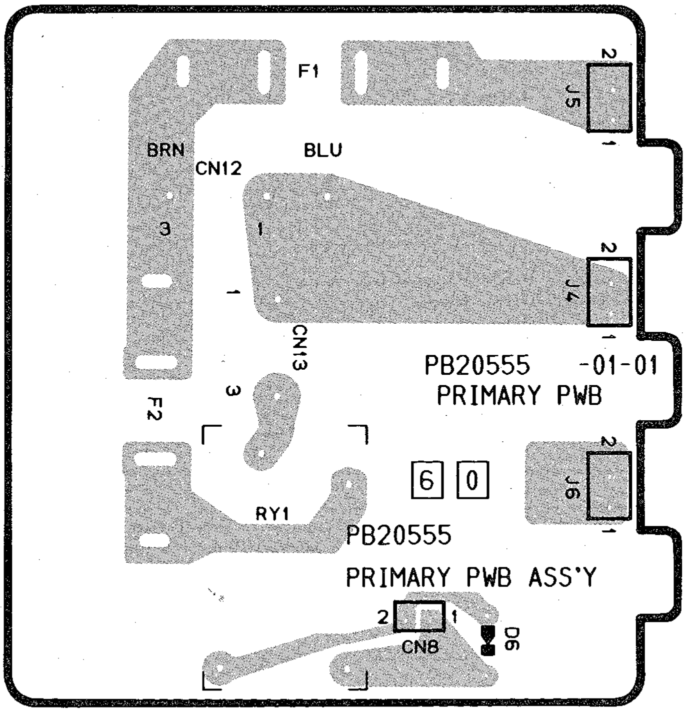
## 3.10 SW REG, REGULATOR (1), (2) AND PRIMARY CIRCUIT BOARDS

### — SW REG —



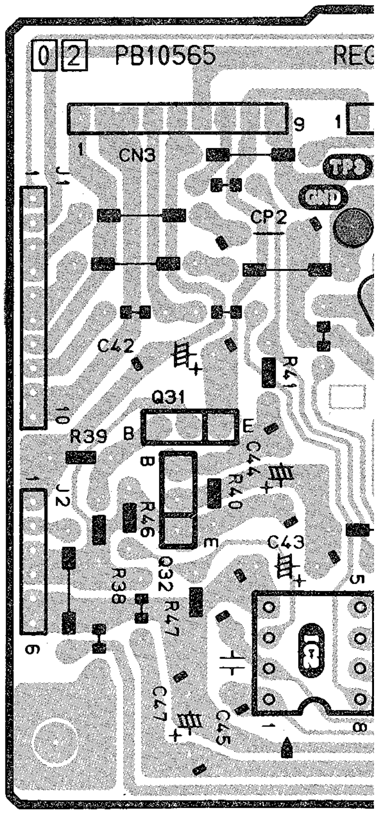
0 1 PB10565
SW.RE
PRIMARY
C35
J5
J4
J6
C1
C2
LF1
LF2
C32
C33
C3
C4
C5
C6
C7
C34
D1
D2
D3
R2
R3
R4
R5
R6
R9
R11
R26
C8
C9
C10
C11
C12
C13
B1
B2
B5
B6
B102
Q1
Q2
B
A
E
1
2
3
PB10565
-01-01
SW.REG PWB

### — PRIMARY —

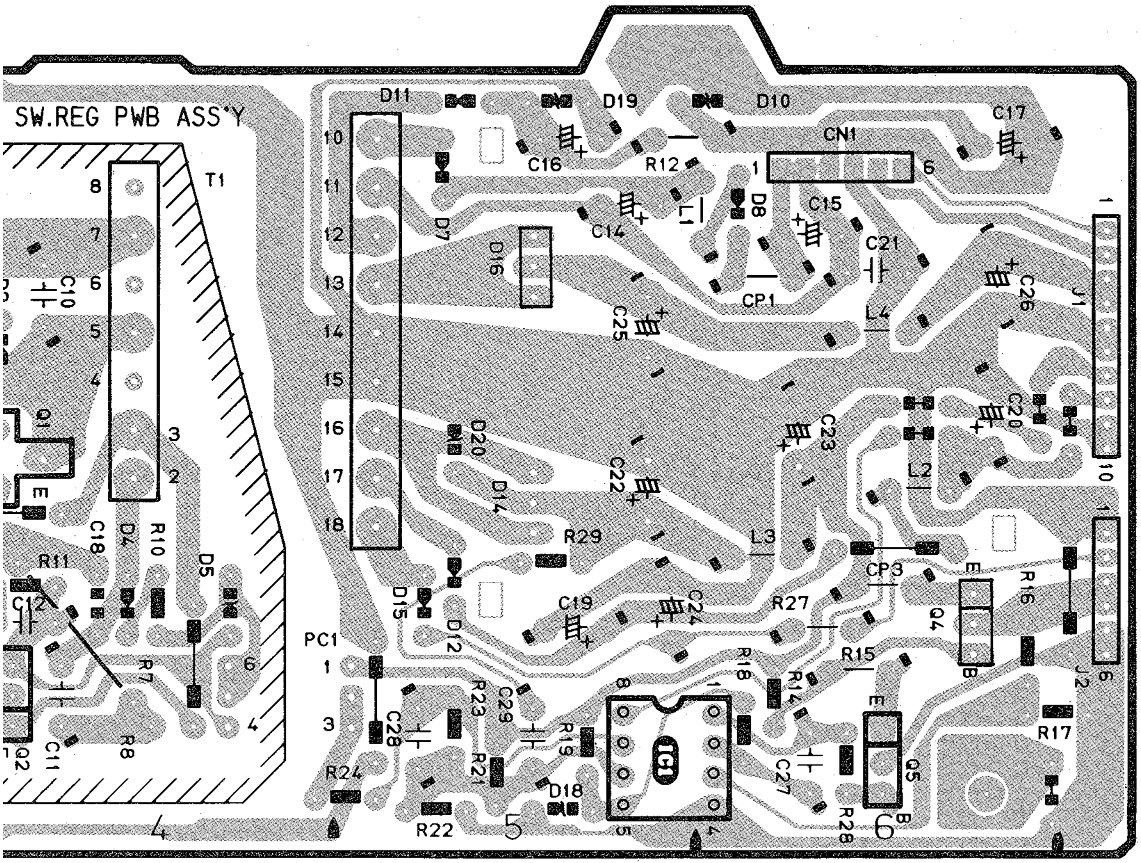


F1
F2
BRN
BLU
CN12
CN13
J5
J4
J6
RY1
CN8
D6
PB20555 -01-01
PRIMARY PWB
6 0
PB20555
PRIMARY PWB ASS'Y

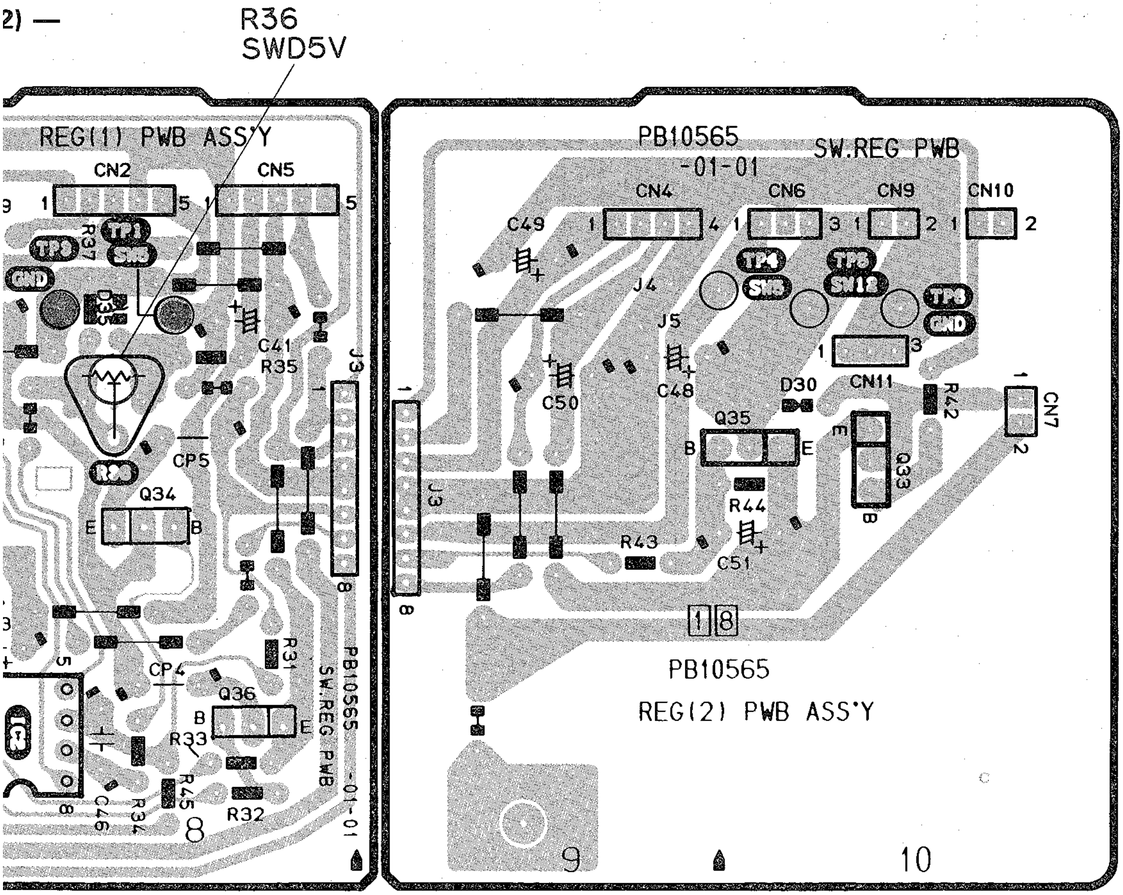
### — REGULATOR (1), (2) —



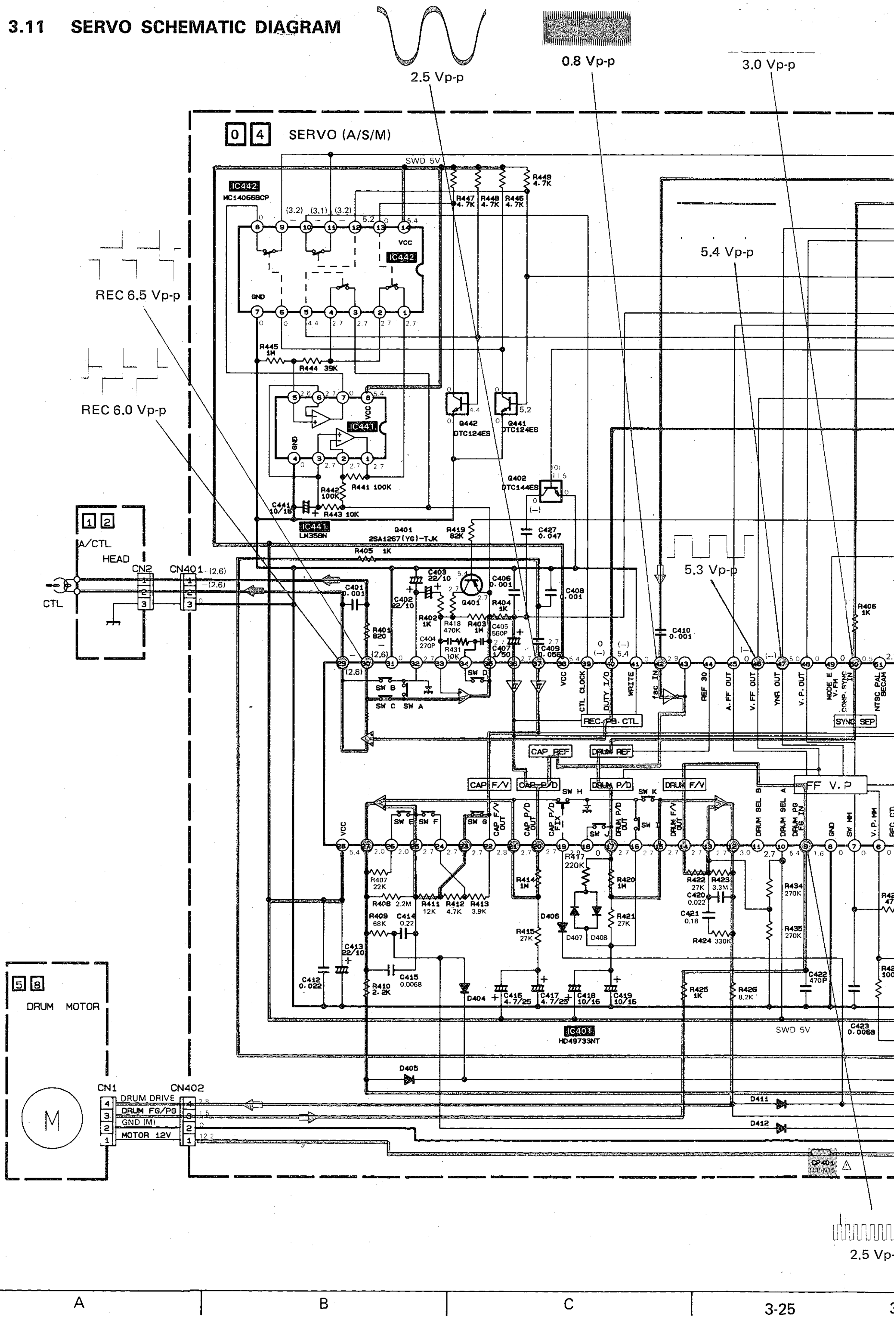
0 2 PB10565
REG
CN3
J1
J2
TP3
GND
CP2
C42
C43
C44
C45
C47
Q31
Q32
R38
R39
R40
R41
R46
R47
IC3
B
E


SW.REG PWB ASS'Y
T1
D11
D19
D10
C17
CN1
C16
R12
D7
D8
C15
C14
L1
D16
C21
CP1
C25
C26
J1
L4
C20
C23
D20
C22
D14
L2
R29
L3
CP3
R16
Q4
C19
C24
R27
D15
D12
PC1
R18
R14
R15
J2
C28
R23
C29
R19
IC1
R17
C27
Q5
R24
R21
D18
R22
R28
C10
Q1
C18
D4
R10
D5
R11
C12
R7
R8
C11
Q2
4
5
6

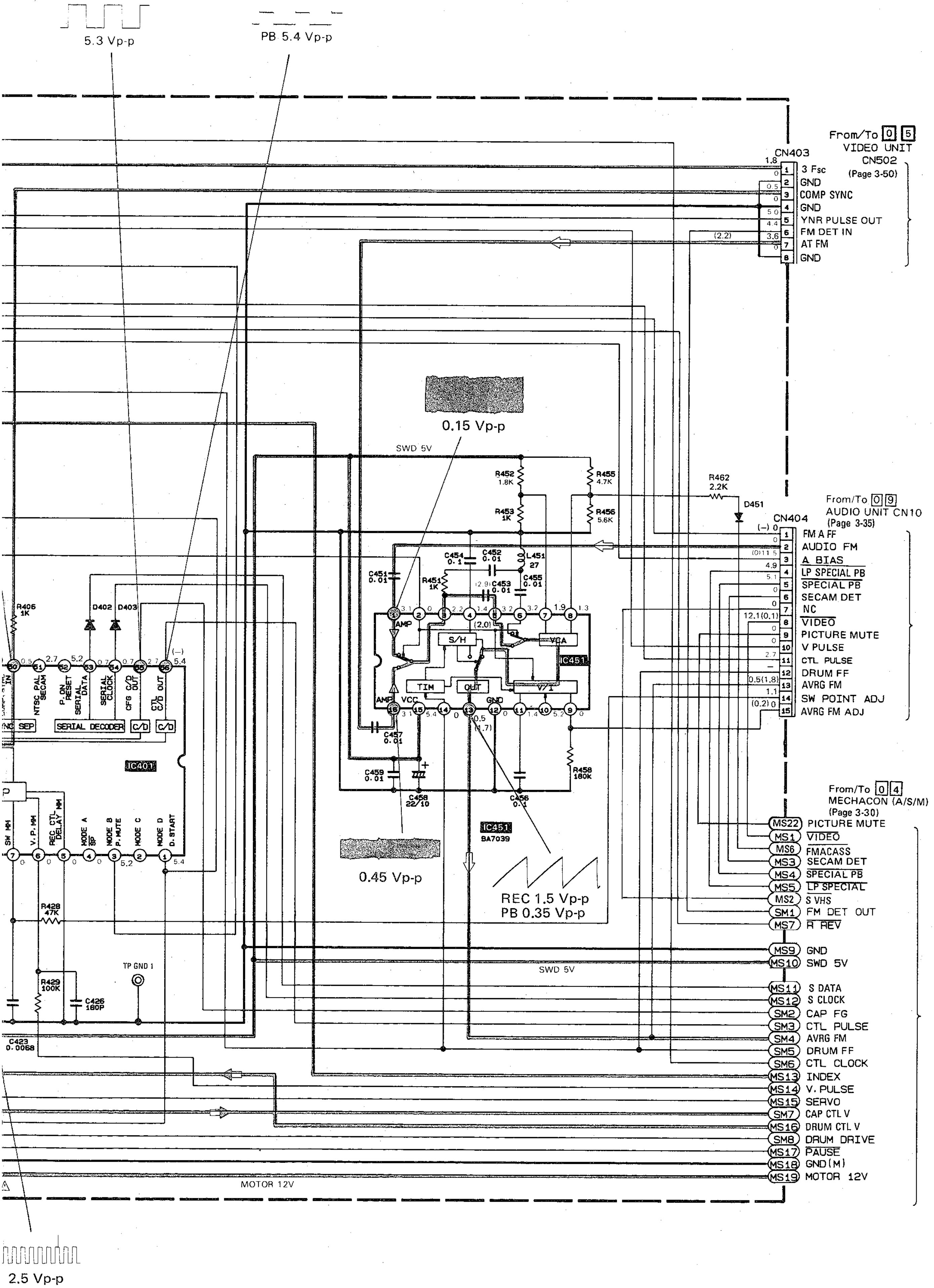
2) —


R36
SWD5V
REG(1) PWB ASS'Y
CN2
CN5
R37
TP1
TP9
SW5
GND
C41
R35
J3
CP5
R36
Q34
CP4
R31
Q36
R33
R45
R34
C46
R32
IC2
PB10565
SW.REG PWB
-01-01
8
PB10565
-01-01
SW.REG PWB
CN4
CN6
CN9
CN10
C49
TP4
SW5
TP5
SW12
TP6
GND
J4
J5
C50
C48
D30
CN11
R42
CN7
Q35
Q33
R44
R43
C51
J3
PB10565
REG(2) PWB ASS'Y
9
10

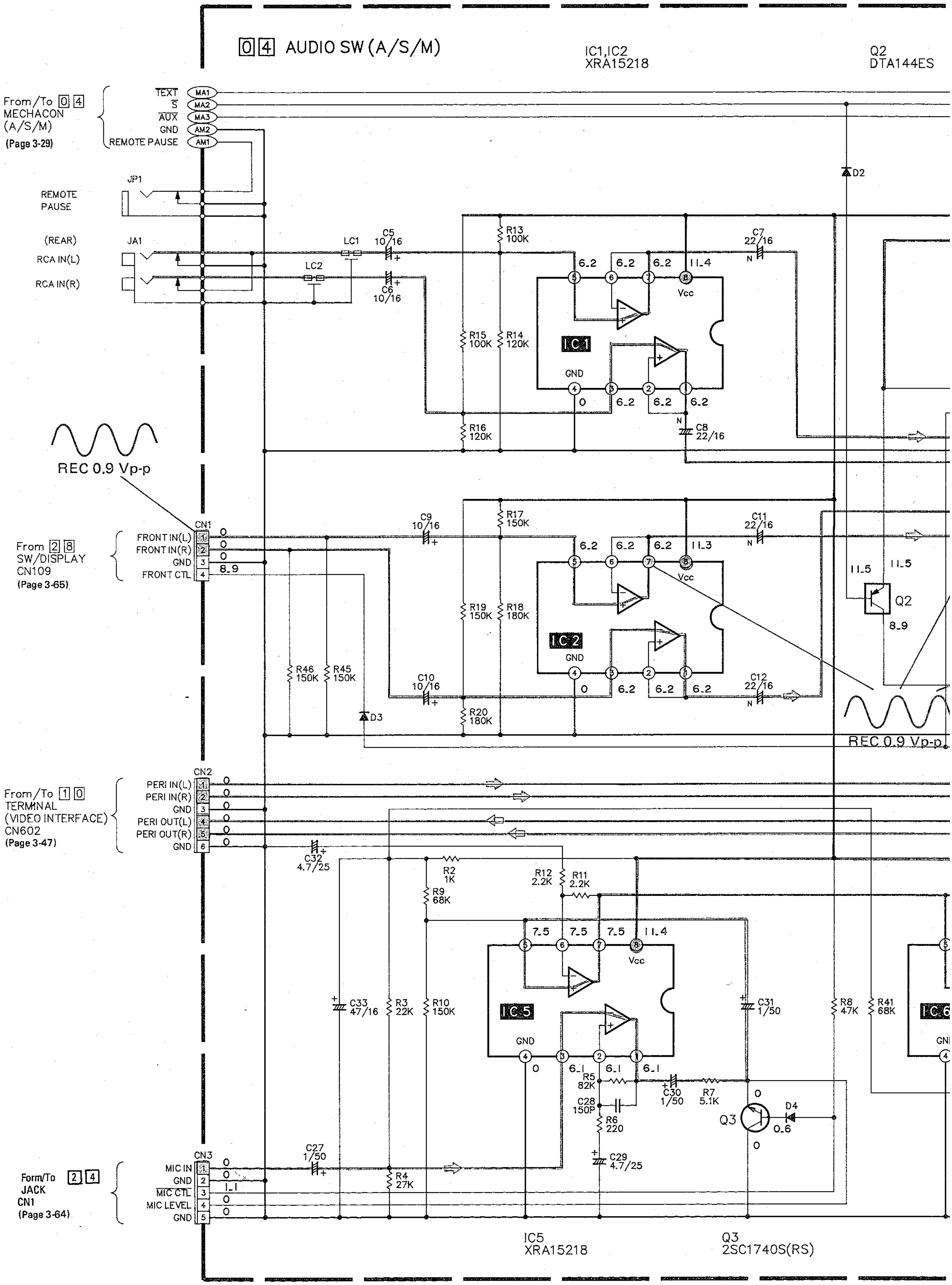
## 3.11 SERVO SCHEMATIC DIAGRAM



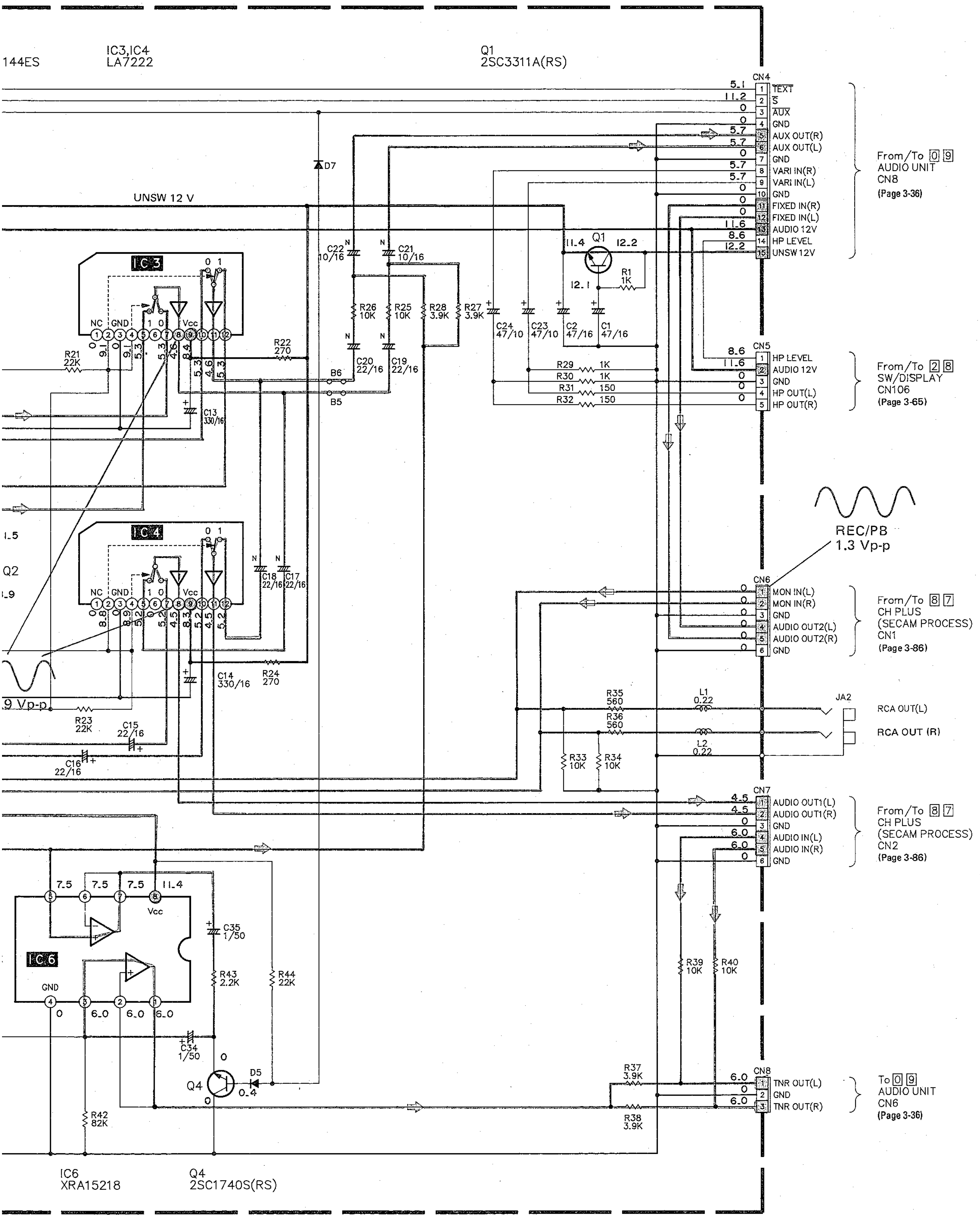
2.5 Vp-p
0.8 Vp-p
3.0 Vp-p
0 4 SERVO (A/S/M)
SWD 5V
IC442
MC14066BCP
IC441
LM358N
R447 4.7K
R448 4.7K
R446 4.7K
R449 4.7K
5.4 Vp-p
REC 6.5 Vp-p
REC 6.0 Vp-p
R445 1M
R444 39K
R442 100K
R441 100K
R443 10K
C441 10/16
Q442 DTC124ES
Q441 DTC124ES
Q402 DTC144ES
C427 0.047
Q401 2SA1267(Y6)-TJK
R419 82K
R405 1K
1 2 A/CTL HEAD
CN2
CN401
CTL
C401 0.001
C402 22/10
C403 22/10
C406 0.001
C408 0.001
R401 820
R402 1K
R418 470K
R403 1M
R404 1K
C404 270P
R431 10K
C405 560P
C407 1/50
C409 0.056
C410 0.001
5.3 Vp-p
R406 1K
SW B
SW C
SW A
SW D
VCC
CTL CLOCK
DUTY I/O
WRITE
fsc IN
REF 30
A.FF OUT
V.FF OUT
YNR OUT
V.P.OUT
MODE E V.FH
COMP. SYNC IN
NTSC PAL SECAM
REC. PB. CTL
SYNC SEP
CAP REF
DRUM REF
CAP F/V
CAP P/D
DRUM P/D
DRUM F/V
FF V.P
SW E
SW F
SW G
SW H
SW J
SW K
SW I
CAP F/V OUT
CAP P/D OUT
CAP P/D FIX
DRUM P/D OUT
DRUM F/V OUT
DRUM SEL B
DRUM SEL A
DRUM PG FG IN
GND
SW MM
V.P.MM
R407 22K
R408 2.2M
R411 12K
R412 4.7K
R413 3.9K
R409 68K
C414 0.22
C413 22/10
C412 0.022
R410 2.2K
C415 0.0068
R414 1M
R417 220K
R420 1M
D406
D407
D408
R415 27K
R421 27K
R422 27K
R423 3.3M
C420 0.022
C421 0.18
R424 330K
R434 270K
R435 270K
C422 470P
R425 1K
R426 8.2K
D404
C416 4.7/25
C417 4.7/25
C418 10/16
C419 10/16
IC401
HD49733NT
SWD 5V
C423 0.0068
5 8 DRUM MOTOR
M
CN1
CN402
DRUM DRIVE
DRUM FG/PG
GND (M)
MOTOR 12V
D405
D411
D412
CP401 ICP-N15
2.5 Vp-
A
B
C
1
2
3
4
5
6


5.3 Vp-p
PB 5.4 Vp-p
CN403
From/To 0 5
VIDEO UNIT
CN502
(Page 3-50)
1 3 Fsc
2 GND
3 COMP SYNC
4 GND
5 YNR PULSE OUT
6 FM DET IN
7 AT FM
8 GND
(2.2)
0.15 Vp-p
SWD 5V
R452 1.8K
R453 1K
R455 4.7K
R456 5.6K
R462 2.2K
D451
From/To 0 9
AUDIO UNIT CN10
(Page 3-35)
CN404
1 FM A FF
2 AUDIO FM
3 A BIAS
4 LP SPECIAL PB
5 SPECIAL PB
6 SECAM DET
7 NC
8 VIDEO
9 PICTURE MUTE
10 V PULSE
11 CTL PULSE
12 DRUM FF
13 AVRG FM
14 SW POINT ADJ
15 AVRG FM ADJ
C454 0.1
C452 0.01
L451 27
C451 0.01
R451 1K
C453 0.01
C455 0.01
AMP
S/H
VCA
TIM
OUT
V/I
VCC
GND
IC451
C457 0.01
C459 0.01
C458 22/10
C456 0.1
R458 180k
IC451
BA7039
0.45 Vp-p
REC 1.5 Vp-p
PB 0.35 Vp-p
R406 1K
D402
D403
NTSC PAL SECAM
P.ON RESET
SERIAL DATA
SERIAL CLOCK
CFG
C/D OUT
CTL C/D OUT
SEP
SERIAL DECODER
C/D
C/D
IC401
SW MM
V.P. MM
REC CTL DELAY MM
MODE A SP
MODE B P.MUTE
MODE C
MODE D D.START
R428 47K
R429 100K
C426 180P
TP GND 1
C423 0.0068
From/To 0 4
MECHACON (A/S/M)
(Page 3-30)
MS22 PICTURE MUTE
MS1 VIDEO
MS6 FMACASS
MS3 SECAM DET
MS4 SPECIAL PB
MS5 LP SPECIAL
MS2 S VHS
SM1 FM DET OUT
MS7 R REV
MS9 GND
MS10 SWD 5V
SWD 5V
MS11 S DATA
MS12 S CLOCK
SM2 CAP FG
SM3 CTL PULSE
SM4 AVRG FM
SM5 DRUM FF
SM6 CTL CLOCK
MS13 INDEX
MS14 V. PULSE
MS15 SERVO
SM7 CAP CTL V
MS16 DRUM CTL V
SM8 DRUM DRIVE
MS17 PAUSE
MS18 GND(M)
MS19 MOTOR 12V
MOTOR 12V
2.5 Vp-p

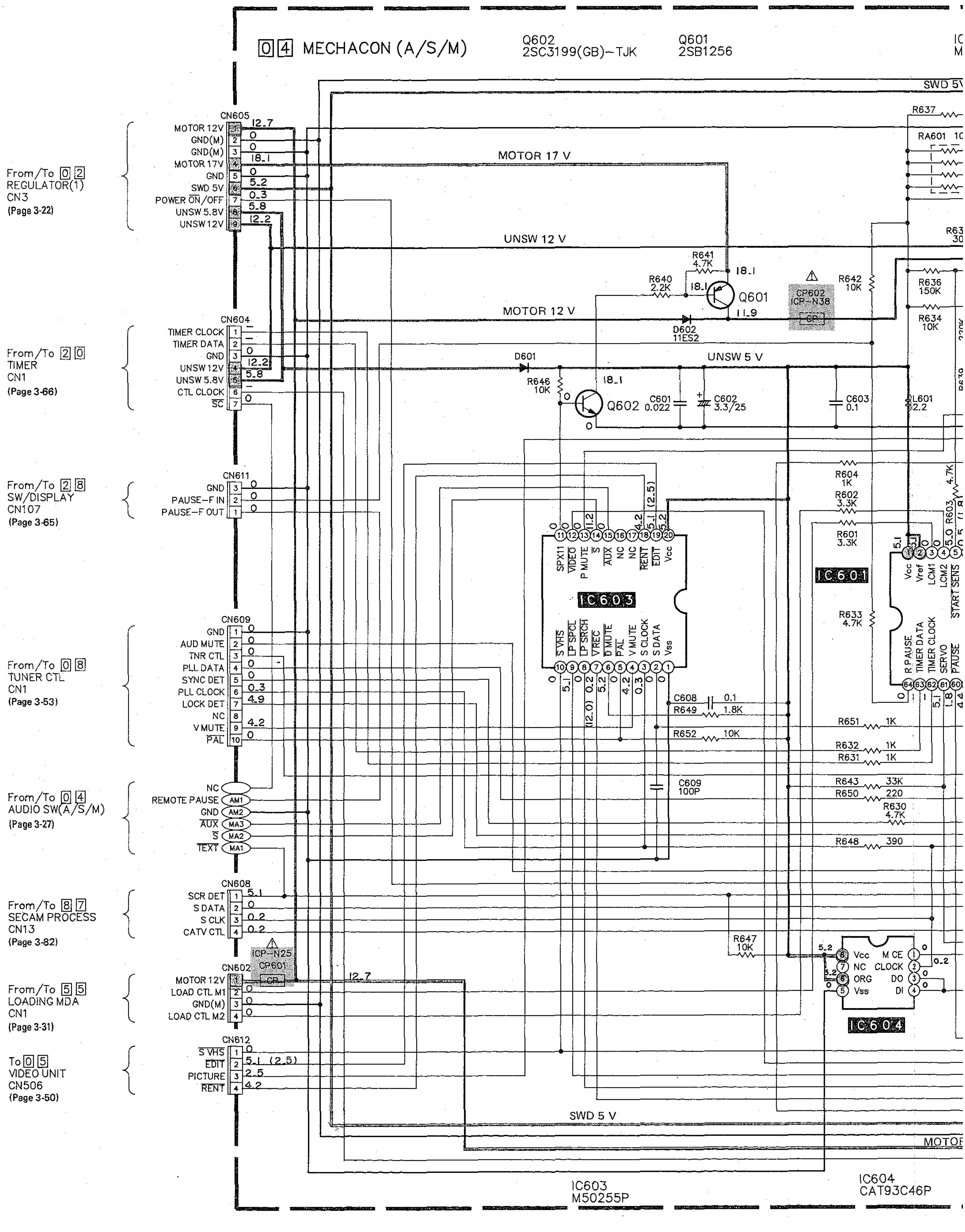
## 3.12 AUDIO SW SCHEMATIC DIAGRAM



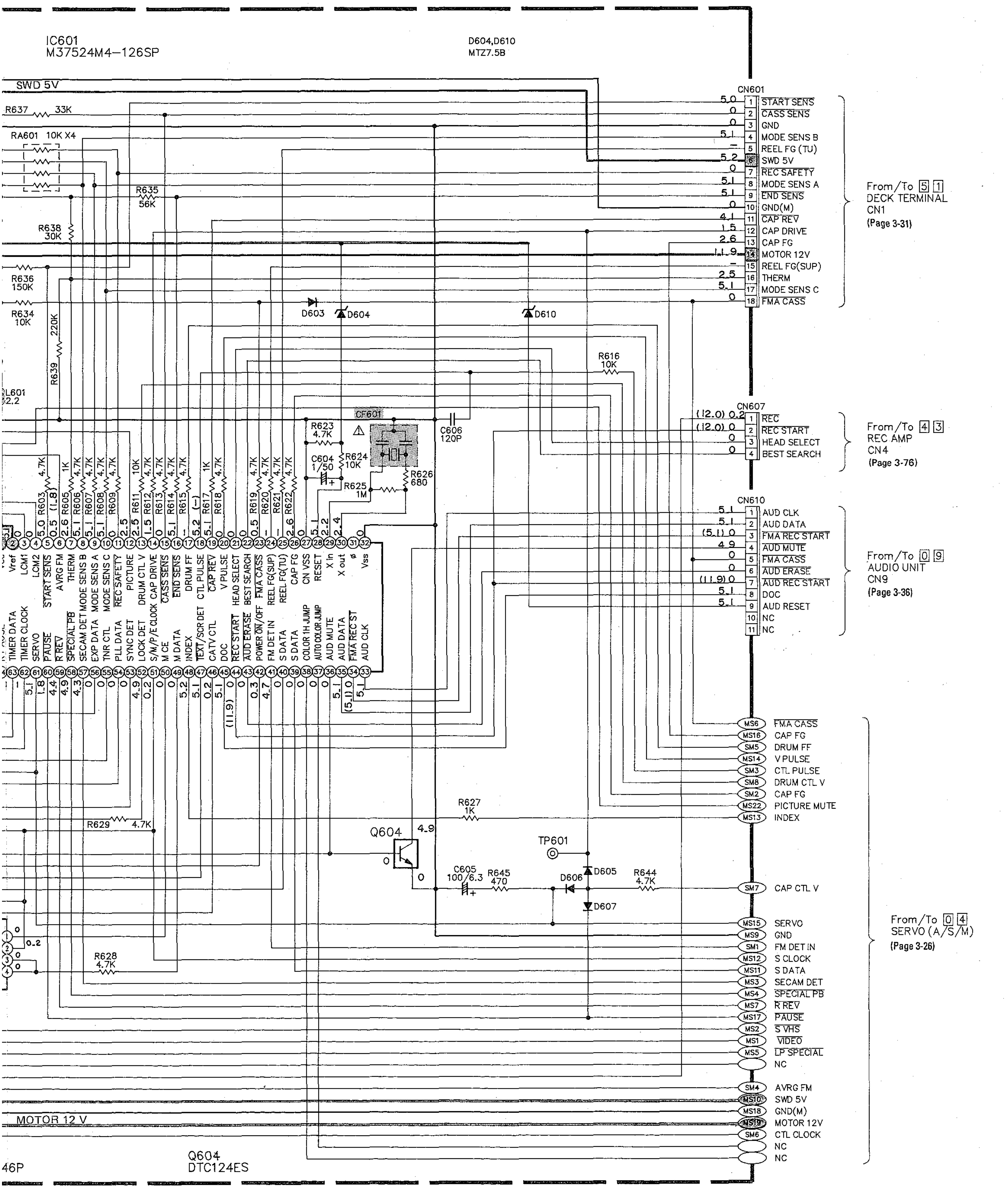
6
5
4
3
2
1
A
B
C
04 AUDIO SW (A/S/M)
IC1,IC2
XRA15218
Q2
DTA144ES
From/To 04
MECHACON
(A/S/M)
(Page 3-29)
TEXT
S
AUX
GND
REMOTE PAUSE
MA1
MA2
MA3
AM2
AM1
JP1
REMOTE
PAUSE
(REAR)
JA1
RCA IN(L)
RCA IN(R)
LC1
LC2
C5
10/16
C6
10/16
R13
100K
C7
22/16
D2
6.2
6.2
6.2
11.4
Vcc
R15
100K
R14
120K
IC1
GND
0
6.2
6.2
6.2
R16
120K
C8
22/16
REC 0.9 Vp-p
From 28
SW/DISPLAY
CN109
(Page 3-65)
CN1
FRONT IN(L)
FRONT IN(R)
GND
FRONT CTL
0
0
0
8.9
C9
10/16
R17
150K
C11
22/16
6.2
6.2
6.2
11.3
Vcc
11.5
11.5
Q2
8.9
R19
150K
R18
180K
IC2
GND
R46
150K
R45
150K
C10
10/16
0
6.2
6.2
6.2
C12
22/16
D3
R20
180K
REC 0.9 Vp-p
From/To 10
TERMINAL
(VIDEO INTERFACE)
CN602
(Page 3-47)
CN2
PERI IN(L)
PERI IN(R)
GND
PERI OUT(L)
PERI OUT(R)
GND
0
0
0
0
0
0
C32
4.7/25
R2
1K
R12
2.2K
R11
2.2K
R9
68K
7.5
7.5
7.5
11.4
Vcc
C33
47/16
R3
22K
R10
150K
IC5
GND
0
6.1
6.1
6.1
C31
1/50
R8
47K
R41
68K
IC6
GND
R5
82K
C28
150P
C30
1/50
R7
5.1K
R6
220
0
Q3
D4
0.6
0
C29
4.7/25
Form/To 24
JACK
CN1
(Page 3-64)
CN3
MIC IN
GND
MIC CTL
MIC LEVEL
GND
0
0
1.1
0
0
C27
1/50
R4
27K
IC5
XRA15218
Q3
2SC1740S(RS)


144ES
IC3,IC4
LA7222
Q1
2SC3311A(RS)
CN4
1 TEXT
2 S
3 AUX
4 GND
5 AUX OUT(R)
6 AUX OUT(L)
7 GND
8 VARI IN(R)
9 VARI IN(L)
10 GND
11 FIXED IN(R)
12 FIXED IN(L)
13 AUDIO 12V
14 HP LEVEL
15 UNSW 12V
5.1
11.2
0
0
5.7
5.7
0
5.7
5.7
0
0
0
11.6
8.6
12.2
From/To 0 9
AUDIO UNIT
CN8
(Page 3-36)
D7
UNSW 12 V
IC 3
NC
GND
Vcc
1 0
0 1
R21
22K
R22
270
C13
330/16
C22
10/16
C21
10/16
N
R26
10K
R25
10K
R28
3.9K
R27
3.9K
C20
22/16
C19
22/16
B6
B5
11.4
12.2
12.1
R1
1K
C24
47/10
C23
47/10
C2
47/16
C1
47/16
R29 1K
R30 1K
R31 150
R32 150
CN5
1 HP LEVEL
2 AUDIO 12V
3 GND
4 HP OUT(L)
5 HP OUT(R)
8.6
11.6
0
0
0
From/To 2 8
SW/DISPLAY
CN106
(Page 3-65)
REC/PB
1.3 Vp-p
IC 4
C18
22/16
C17
22/16
Q2
1.5
1.9
.9 Vp-p
R23
22K
C15
22/16
C16
22/16
C14
330/16
R24
270
CN6
1 MON IN(L)
2 MON IN(R)
3 GND
4 AUDIO OUT2(L)
5 AUDIO OUT2(R)
6 GND
From/To 8 7
CH PLUS
(SECAM PROCESS)
CN1
(Page 3-86)
R35
560
R36
560
L1
0.22
L2
0.22
R33
10K
R34
10K
JA2
RCA OUT(L)
RCA OUT (R)
CN7
1 AUDIO OUT1(L)
2 AUDIO OUT1(R)
3 GND
4 AUDIO IN(L)
5 AUDIO IN(R)
6 GND
4.5
4.5
0
6.0
6.0
0
From/To 8 7
CH PLUS
(SECAM PROCESS)
CN2
(Page 3-86)
IC 6
7.5
7.5
7.5
11.4
Vcc
GND
0
6.0
6.0
6.0
C35
1/50
R43
2.2K
R44
22K
R39
10K
R40
10K
C34
1/50
Q4
D5
0.4
0
0
R42
82K
R37
3.9K
R38
3.9K
CN8
1 TNR OUT(L)
2 GND
3 TNR OUT(R)
6.0
0
6.0
To 0 9
AUDIO UNIT
CN6
(Page 3-36)
IC6
XRA15218
Q4
2SC1740S(RS)

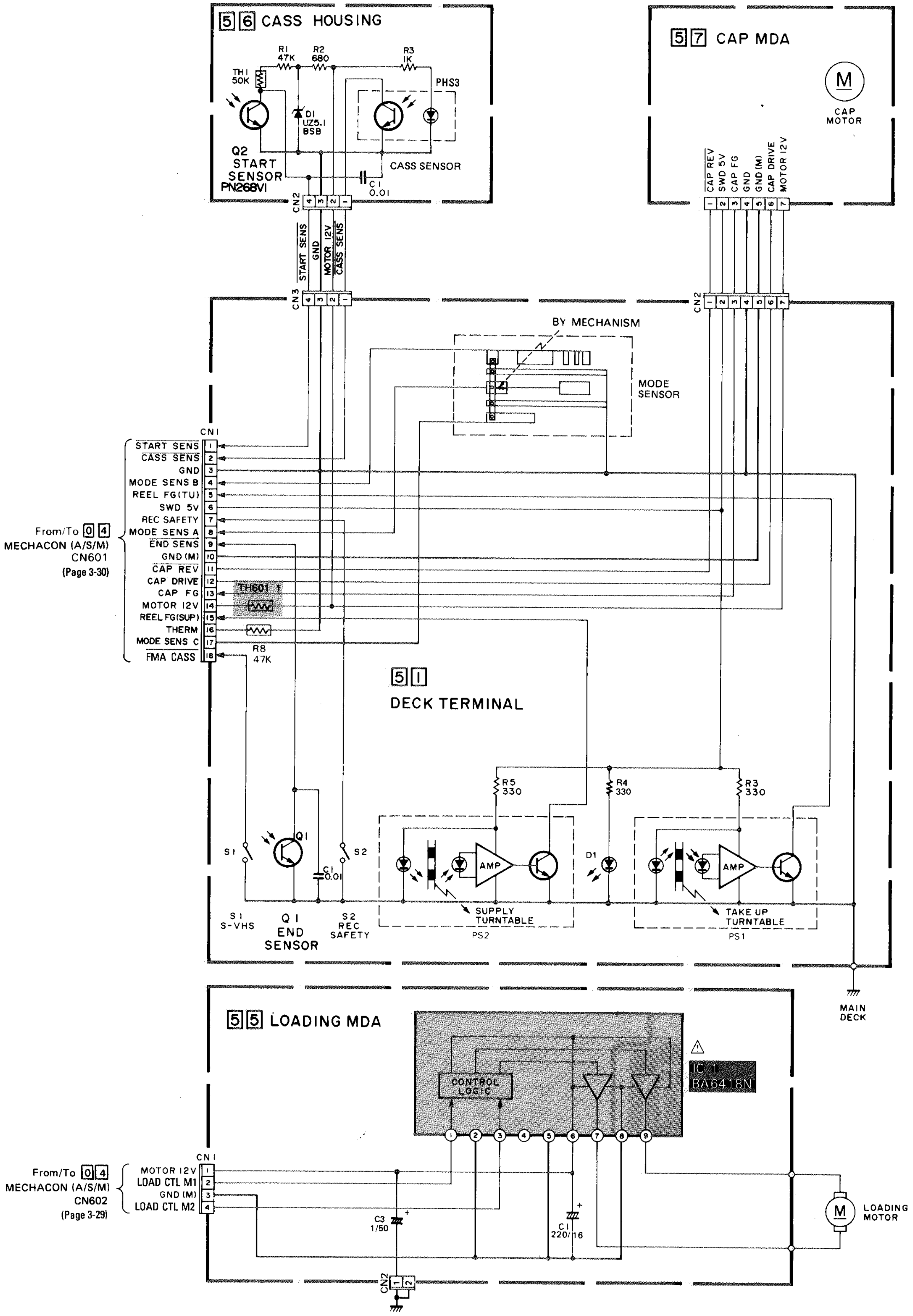
## 3.13 SYSTEM CTL SCHEMATIC DIAGRAM



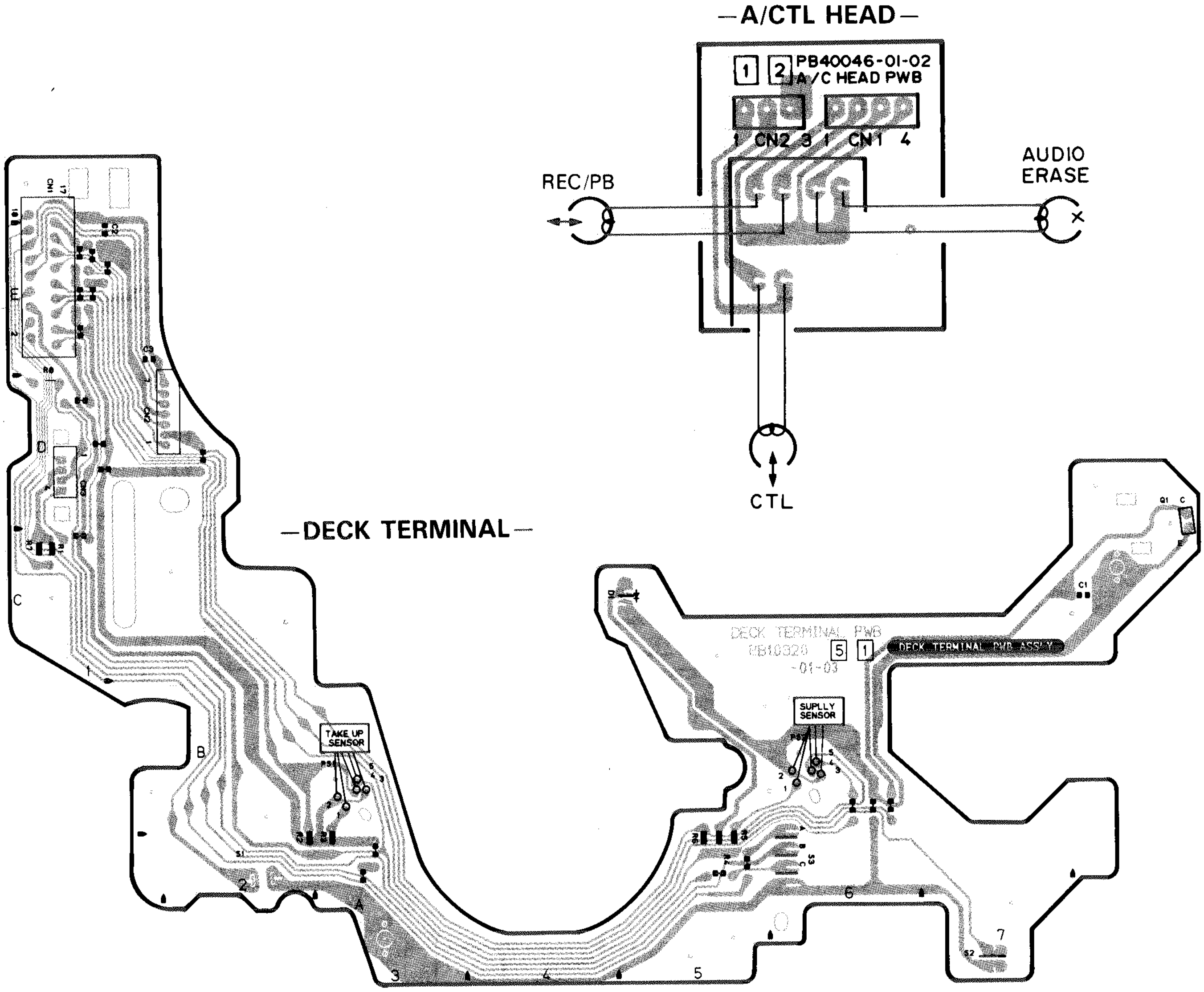
04 MECHACON (A/S/M)
Q602 2SC3199(GB)-TJK
Q601 2SB1256
SWD 5V
R637
RA601
MOTOR 17 V
UNSW 12 V
MOTOR 12 V
UNSW 5 V
SWD 5 V
From/To 02 REGULATOR(1) CN3 (Page 3-22)
CN605
MOTOR 12V 12.7
GND(M) 0
GND(M) 0
MOTOR 17V 18.1
GND 0
SWD 5V 5.2
POWER ON/OFF 0.3
UNSW 5.8V 5.8
UNSW 12V 12.2
From/To 20 TIMER CN1 (Page 3-66)
CN604
TIMER CLOCK
TIMER DATA
GND 0
UNSW 12V 12.2
UNSW 5.8V 5.8
CTL CLOCK
SC 0
From/To 28 SW/DISPLAY CN107 (Page 3-65)
CN611
GND 0
PAUSE-F IN 0
PAUSE-F OUT 0
From/To 08 TUNER CTL CN1 (Page 3-53)
CN609
GND 0
AUD MUTE 0
TNR CTL 0
PLL DATA 0
SYNC DET 0
PLL CLOCK 0.3
LOCK DET 4.9
NC
V MUTE 4.2
PAL 0
From/To 04 AUDIO SW(A/S/M) (Page 3-27)
NC
REMOTE PAUSE AM1
GND AM2
AUX MA3
S MA2
TEXT MA1
From/To 87 SECAM PROCESS CN13 (Page 3-82)
CN608
SCR DET 5.1
S DATA 0
S CLK 0.2
CATV CTL 0.2
From/To 55 LOADING MDA CN1 (Page 3-31)
CN602
MOTOR 12V 12.7
LOAD CTL M1 0
GND(M) 0
LOAD CTL M2 0
ICP-N25 CP601
To 05 VIDEO UNIT CN506 (Page 3-50)
CN612
S VHS 0
EDIT 5.1 (2.5)
PICTURE 2.5
RENT 4.2
R641 4.7K
R640 2.2K
18.1
11.9
Q601
CP602 ICP-N38
R642 10K
R636 150K
R634 10K
D602 11ES2
D601
R646 10K
Q602
C601 0.022
C602 3.3/25
C603 0.1
L601 2.2
R604 1K
R602 3.3K
R601 3.3K
R603
4.7K
R633 4.7K
IC601
Vcc Vref LCM1 LCM2 START SENS
R PAUSE TIMER DATA TIMER CLOCK SERVO PAUSE
IC603
SPX11 VIDEO P MUTE S AUX NC NC RENT EDIT Vcc
S VHS LP SPCL LP SRCH V REC D MUTE PAL V MUTE S CLOCK S DATA Vss
C608 0.1
R649 1.8K
R652 10K
C609 100P
R651 1K
R632 1K
R631 1K
R643 33K
R650 220
R630 4.7K
R648 390
R647 10K
IC604
Vcc NC ORG Vss
M CE CLOCK DO DI
MOTOR
IC603 M50255P
IC604 CAT93C46P


IC601
M37524M4-126SP
D604,D610
MTZ7.5B
SWD 5V
R637 33K
RA601 10K X4
R635 56K
R638 30K
R636 150K
R634 10K
R639 220K
D603
D604
D610
R616 10K
CN601
1 START SENS
2 CASS SENS
3 GND
4 MODE SENS B
5 REEL FG (TU)
6 SWD 5V
7 REC SAFETY
8 MODE SENS A
9 END SENS
10 GND(M)
11 CAP REV
12 CAP DRIVE
13 CAP FG
14 MOTOR 12V
15 REEL FG(SUP)
16 THERM
17 MODE SENS C
18 FMA CASS
From/To 5 1
DECK TERMINAL
CN1
(Page 3-31)
CN607
1 REC
2 REC START
3 HEAD SELECT
4 BEST SEARCH
From/To 4 3
REC AMP
CN4
(Page 3-76)
CN610
1 AUD CLK
2 AUD DATA
3 FMA REC START
4 AUD MUTE
5 FMA CASS
6 AUD ERASE
7 AUD REC START
8 DOC
9 AUD RESET
10 NC
11 NC
From/To 0 9
AUDIO UNIT
CN9
(Page 3-36)
CF601
R623 4.7K
C604 1/50
R624 10K
R625 1M
R626 680
C606 120P
L601
Vref LCM1 LCM2 START SENS AVRG FM THERM SECAM DET MODE SENS B MODE SENS A MODE SENS C REC SAFETY PICTURE DRUM CTL V CAP DRIVE CASS SENS END SENS DRUM FF CTL PULSE CAP REV V PULSE HEAD SELECT BEST SEARCH FMA CASS REEL FG(SUP) REEL FG(TU) CAP FG CN VSS RESET X in X out ø Vss
TIMER DATA TIMER CLOCK SERVO PAUSE R REV SPECIAL PB SECAM DET EXP DATA TNR CTL PLL DATA SYNC DET LOCK DET S/M/P/E CLOCK M CE M DATA INDEX TEXT/SCR DET CATV CTL DOC REC START AUD ERASE POWER ON/OFF FM DET IN S DATA S DATA COLOR 1H JUMP AUTO COLOR JUMP AUD MUTE AUD DATA FMA REC ST AUD CLK
R603 R605 R606 R607 R608 R609 R611 R612 R613 R614 R615 R617 R618 R619 R620 R621 R622
R627 1K
R629 4.7K
Q604
TP601
C605 100/6.3
R645 470
D605
D606
D607
R644 4.7K
R628 4.7K
MS6 FMA CASS
MS16 CAP FG
SM5 DRUM FF
MS14 V PULSE
SM3 CTL PULSE
SM8 DRUM CTL V
SM2 CAP FG
MS22 PICTURE MUTE
MS13 INDEX
SM7 CAP CTL V
MS15 SERVO
MS9 GND
SM1 FM DET IN
MS12 S CLOCK
MS11 S DATA
MS3 SECAM DET
MS4 SPECIAL PB
MS7 R REV
MS17 PAUSE
MS2 S VHS
MS1 VIDEO
MS5 LP SPECIAL
NC
SM4 AVRG FM
MS10 SWD 5V
MS18 GND(M)
MS19 MOTOR 12V
SM6 CTL CLOCK
NC
NC
From/To 0 4
SERVO (A/S/M)
(Page 3-26)
MOTOR 12 V
46P
Q604
DTC124ES

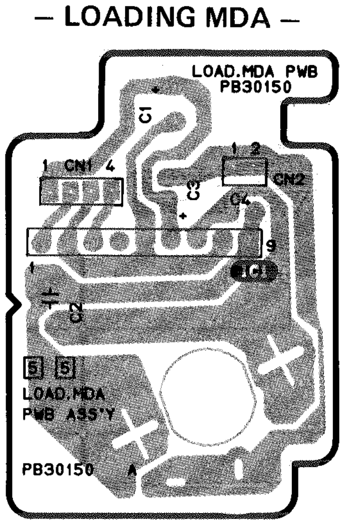
## 3.14 DECK TERMINAL, LOADING MDA, CAPSTAN MDA, C. HOUSING SCHEMATIC DIAGRAMS


5 6 CASS HOUSING
R1 47K
R2 680
R3 1K
TH1 50K
PHS3
D1 UZ5.1 BSB
Q2 START SENSOR PN268V1
CASS SENSOR
C1 0.01
CN2
START SENS
GND
MOTOR 12V
CASS SENS
CN3
5 7 CAP MDA
M
CAP MOTOR
CAP REV
SWD 5V
CAP FG
GND
GND (M)
CAP DRIVE
MOTOR 12V
CN2
BY MECHANISM
MODE SENSOR
CN1
START SENS
CASS SENS
GND
MODE SENS B
REEL FG(TU)
SWD 5V
REC SAFETY
MODE SENS A
END SENS
GND (M)
CAP REV
CAP DRIVE
CAP FG
MOTOR 12V
REEL FG(SUP)
THERM
MODE SENS C
FMA CASS
From/To 0 4 MECHACON (A/S/M) CN601 (Page 3-30)
TH601 1
R8 47K
5 1 DECK TERMINAL
R5 330
R4 330
R3 330
S1
Q1
C1 0.01
S2
AMP
D1
AMP
S1 S-VHS
Q1 END SENSOR
S2 REC SAFETY
SUPPLY TURNTABLE
PS2
TAKE UP TURNTABLE
PS1
MAIN DECK
5 5 LOADING MDA
CONTROL LOGIC
⚠
IC 1 BA6418N
1
2
3
4
5
6
7
8
9
CN1
MOTOR 12V
LOAD CTL M1
GND (M)
LOAD CTL M2
From/To 0 4 MECHACON (A/S/M) CN602 (Page 3-29)
C3 1/50
C1 220/16
M
LOADING MOTOR
CN2
6
5
4
3
2
1
A
B
C

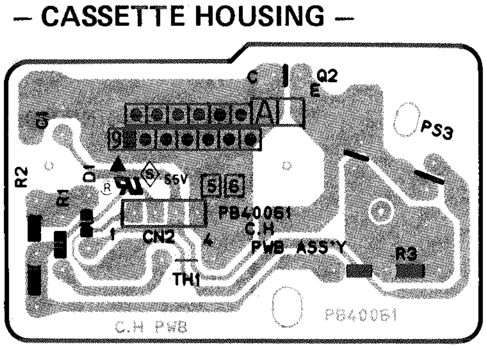
## 3.15 DECK TERMINAL, LOADING MDA, CAPSTAN MDA, C. HOUSING CIRCUIT BOARDS



—A/CTL HEAD—
1
2
PB40046-01-02
A/C HEAD PWB
1 CN2 3
1 CN1 4
REC/PB
AUDIO
ERASE
CTL
—DECK TERMINAL—
DECK TERMINAL PWB
PB10320
5
1
-01-03
DECK TERMINAL PWB ASS'Y
TAKE UP SENSOR
SUPLLY SENSOR
A
B
C
D
E
1
2
3
4
5
6
7
S1
S2
S3
C1
Q1
5
4
3



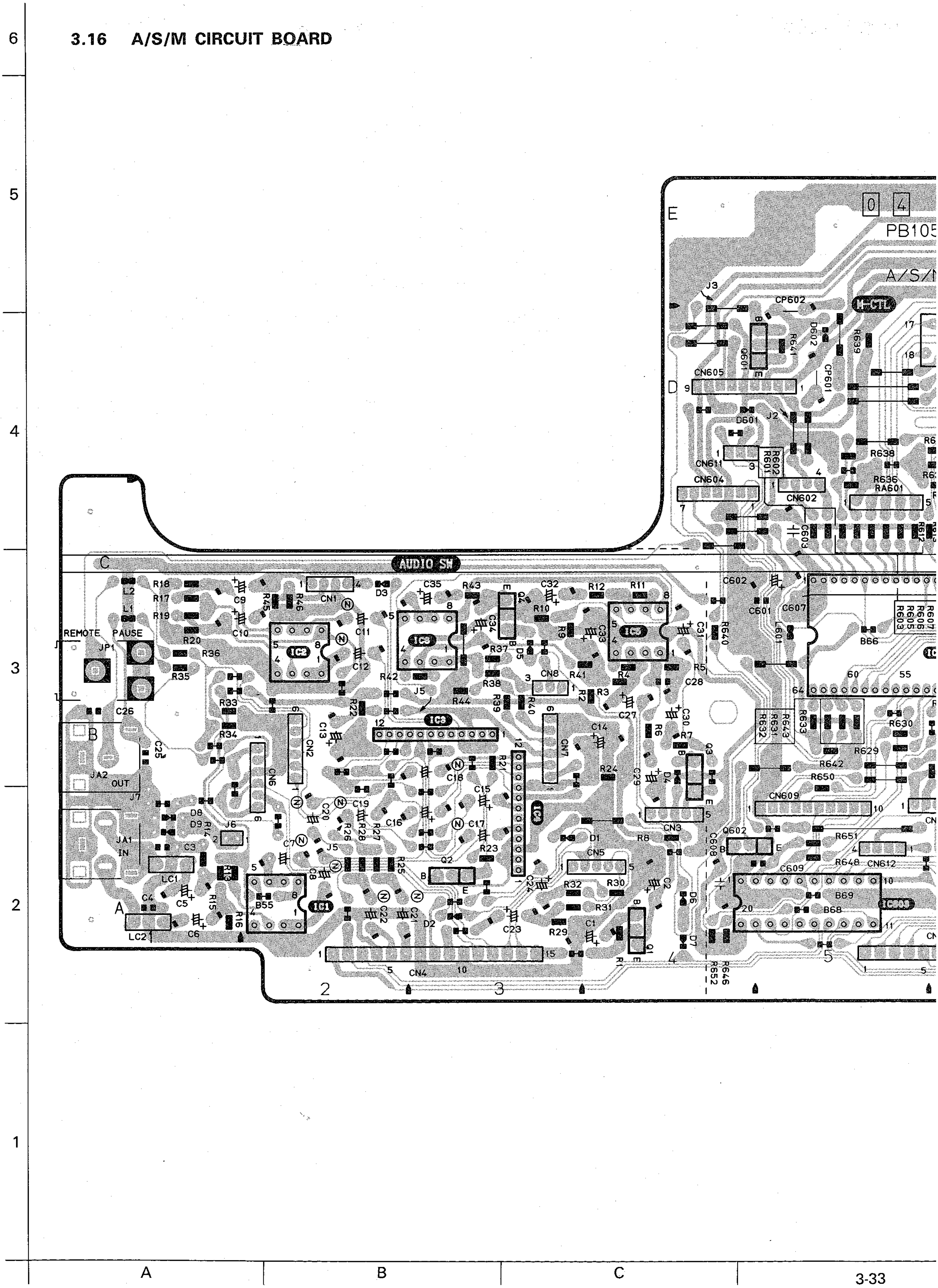
— LOADING MDA —
LOAD.MDA PWB
PB30150
1 CN1 4
1 2
CN2
C1
C2
C3
C4
9
1
5 5
LOAD.MDA
PWB ASS'Y
PB30150
2
1

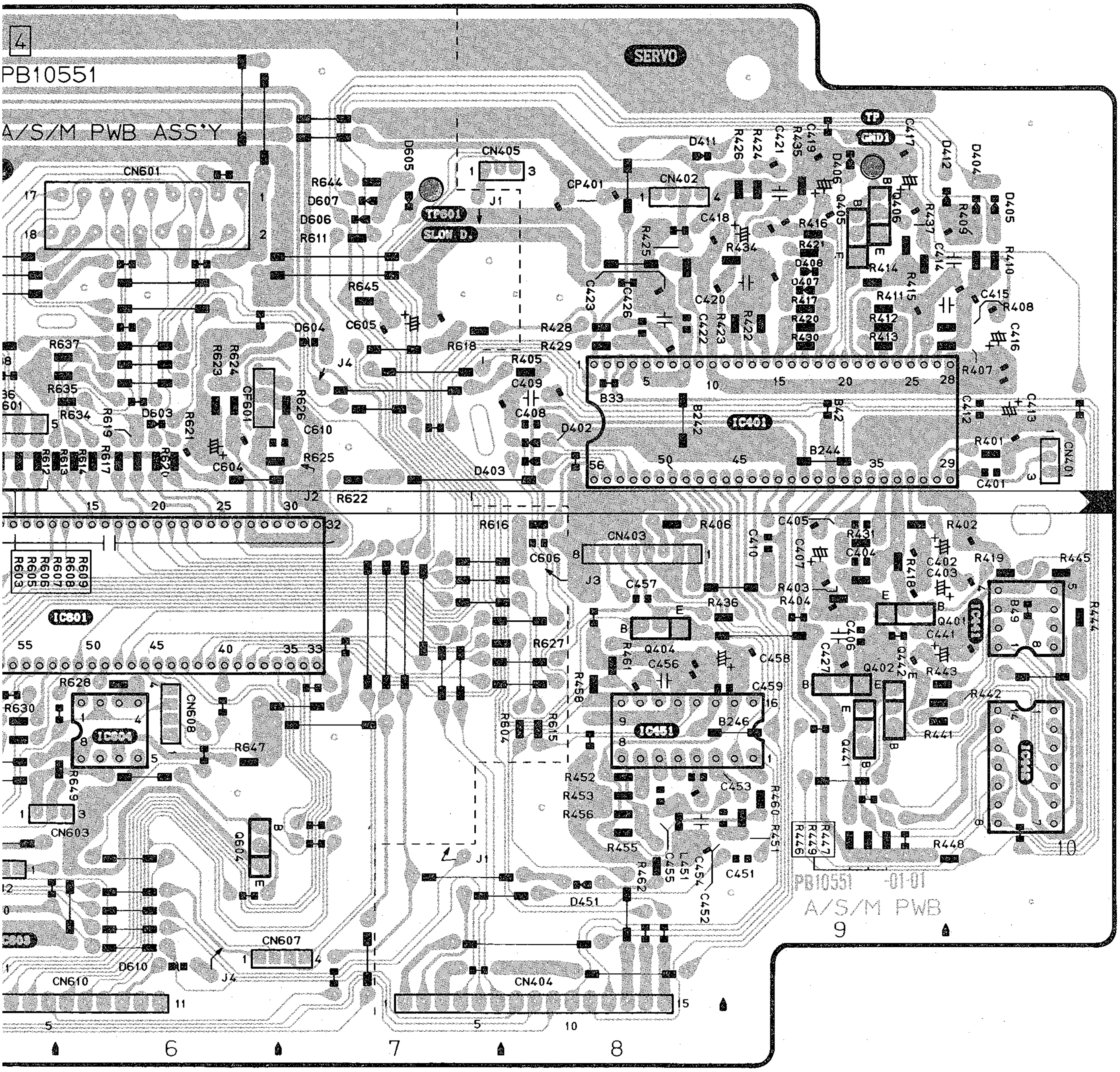


— CASSETTE HOUSING —
C
Q2
E
A
9
C1
R2
R1
D1
55V
5 6
PB40061
C.H
PWB ASS'Y
CN2
1
4
8
TH1
R3
PS3
C.H PWB
PB40061

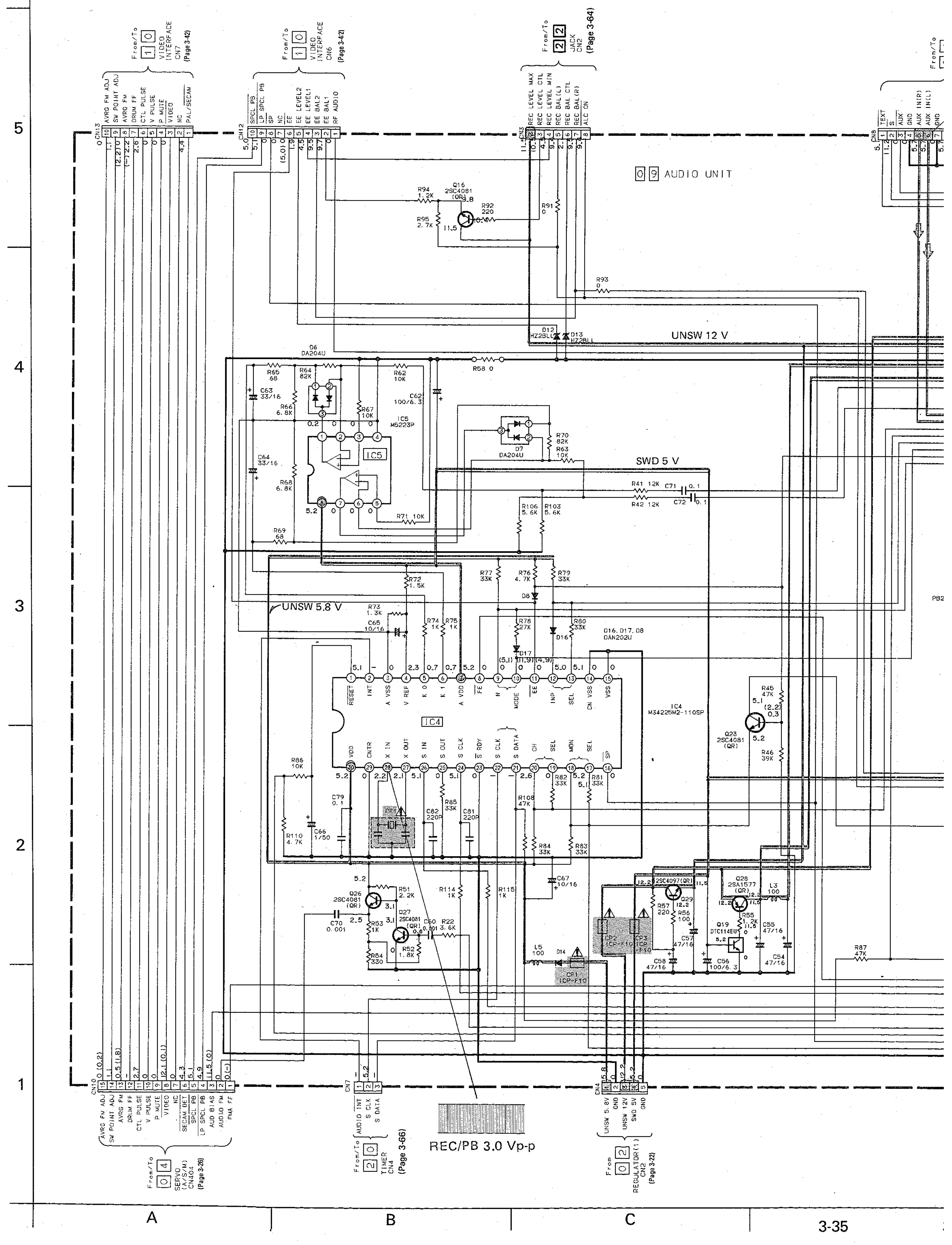
A B C D

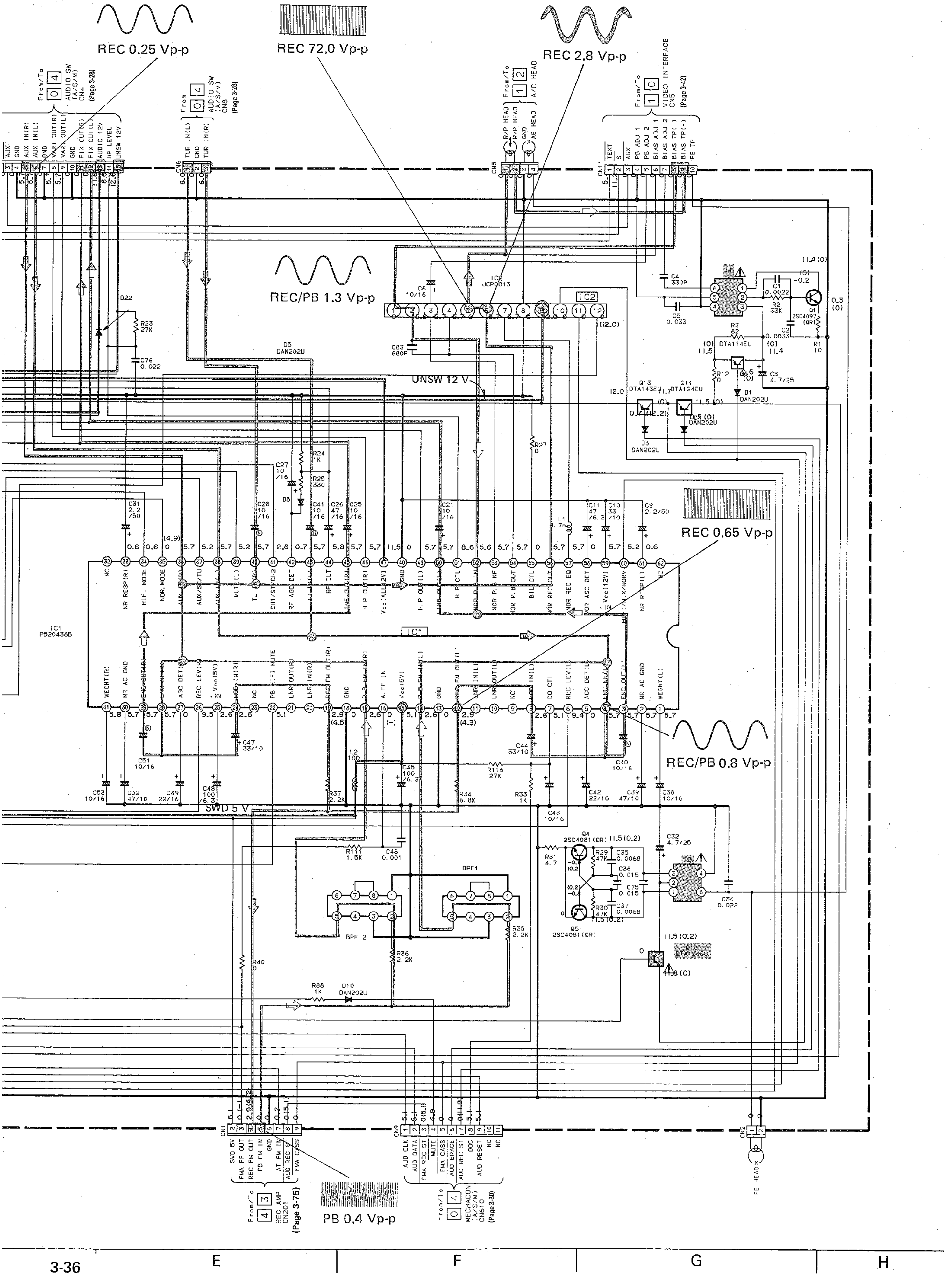
## 3.16 A/S/M CIRCUIT BOARD


6
5
4
3
2
1
A
B
C
E
D
C
B
A
0 4
PB105
A/S/
M-CTL
AUDIO SW
J3
CP602
Q601
R641
D602
R639
CP601
CN605
D601
J2
CN611
R602
R601
CN604
CN602
R638
R636
RA601
C603
R612
C602
C601
C607
L601
R640
R603
R605
R606
R607
B66
64
60
55
R633
R643
R631
R632
R630
R629
R642
R650
CN609
Q602
C608
R651
R648
CN612
C609
B69
B68
IC609
R646
R652
REMOTE
PAUSE
JP1
L2
L1
R18
R17
R19
R20
R36
R35
C26
C25
JA2
OUT
J7
JA1
IN
D8
D9
R14
J6
C3
LC1
R13
C4
C5
C6
R15
R16
LC2
C9
C10
R45
R46
IC2
CN1
D3
C11
C12
R33
R34
CN6
CN2
R22
C13
R42
J5
IC3
C35
IC8
C34
R43
Q4
C32
R10
D5
R37
R38
R39
R40
R44
R12
R11
R9
C33
IC5
C31
R41
CN8
R2
R3
R4
C27
R5
C28
C30
R6
R7
Q3
CN7
C14
R24
C29
D4
CN3
C18
R21
C15
C16
C17
IC4
C19
C20
R26
R28
R27
C7
C8
R25
Q2
R23
C24
D1
CN5
R8
R32
R30
C2
D6
R31
C1
R29
Q1
R1
D7
IC1
B55
C22
C21
D2
C23
CN4
2
3
4
5
1
15
10

4
PB10551
A/S/M PWB ASS'Y
SERVO
TP
GND1
TP601
SLOW D.
CN601
CN405
CN402
CP401
CN401
CN403
CN404
CN603
CN607
CN608
CN610
IC401
IC451
IC601
IC604
IC441
IC443
Q401
Q402
Q404
Q405
Q406
Q441
Q604
CF601
J1
J2
J3
J4
B33
B42
B242
B244
B246
B49
D402
D403
D404
D405
D406
D407
D408
D411
D412
D451
D603
D604
D605
D606
D607
D610
C401
C402
C403
C404
C405
C406
C407
C408
C409
C410
C412
C413
C414
C415
C416
C417
C418
C419
C420
C421
C422
C423
C426
C427
C441
C451
C452
C453
C454
C455
C456
C457
C458
C459
C604
C605
C606
C610
R401
R402
R403
R404
R405
R406
R407
R408
R409
R410
R411
R412
R413
R414
R415
R416
R417
R418
R419
R420
R421
R422
R423
R424
R425
R426
R428
R429
R430
R431
R434
R435
R436
R437
R441
R442
R443
R444
R445
R446
R447
R448
R449
R451
R452
R453
R455
R456
R458
R460
R461
R462
L451
R603
R604
R605
R606
R607
R608
R609
R611
R612
R613
R614
R615
R616
R617
R618
R619
R620
R621
R622
R623
R624
R625
R626
R627
R628
R630
R634
R635
R637
R644
R645
R647
R649
PB10551 -01-01
A/S/M PWB
6
7
8
9
10

# 3.17 AUDIO UNIT SCHEMATIC DIAGRAM

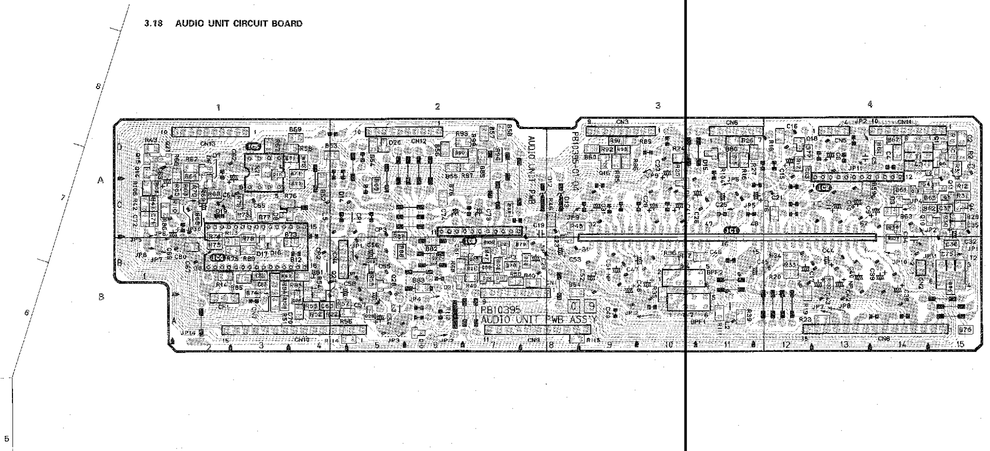

6
5
4
3
2
1
From/To 1 0 VIDEO INTERFACE CN7 (Page 3-42)
CN13
AVRG FM ADJ
SW POINT ADJ
AVRG FM
DRUM FF
CTL PULSE
V PULSE
P MUTE
VIDEO
NC
PAL/SECAM
From/To 1 0 VIDEO INTERFACE CN6 (Page 3-42)
CN12
SPCL PB
LP SPCL PB
SP
NC
EE
EE LEVEL2
EE LEVEL1
EE BAL2
EE BAL1
RF AUDIO
From/To 2 2 JACK CN2 (Page 3-64)
CN3
REC LEVEL MAX
REC LEVEL CTL
REC LEVEL MIN
REC BAL(L)
REC BAL CTL
REC BAL(R)
ALC ON
CN8
TEXT
S
AUX
GND
AUX IN(R)
AUX IN(L)
GND
0 9 AUDIO UNIT
Q16 2SC4081 (QR)
R94 1.2K
R95 2.7K
R92 220
R91 0
R93 0
D12 HZ2BLL
D13 HZ2BLL
UNSW 12 V
D6 DA204U
R58 0
R65 68
R64 82K
R62 10K
C63 33/16
R66 6.8K
C62 100/6.3
R67 10K
IC5 M5223P
IC5
C64 33/16
R68 6.8K
R69 68
R71 10K
D7 DA204U
R70 82K
R63 10K
SWD 5 V
R41 12K
C71 0.1
R42 12K
C72 0.1
R106 5.6K
R103 5.6K
R77 33K
R76 4.7K
R79 33K
R72 1.5K
D8
UNSW 5.8 V
R73 1.3K
C65 10/16
R74 1K
R75 1K
R78 27K
R80 33K
D16
D17
D16, D17, D8 DAN202U
RESET
INT
A VSS
V REF
K 0
K 1
A VDD
FE
N
MODE
EE
INP
SEL
CN VSS
VSS
IC4
IC4 M34225M2-110SP
VDD
CNTR
X IN
X OUT
S IN
S OUT
S CLK
S RDY
S CLK
S DATA
CH
SEL
MON
SEL
SP
R86 10K
C79 0.1
R110 4.7K
C66 1/50
CF1
C82 220P
R85 33K
C81 220P
R108 47K
R82 33K
R81 33K
R84 33K
R83 33K
R45 47K
Q23 2SC4081 (QR)
R46 39K
Q26 2SC4081 (QR)
R51 2.2K
C70 0.001
R53 1K
R54 330
Q27 2SC4081 (QR)
R52 1.8K
C60 0.001
R22 3.6K
R114 1K
R115 1K
C67 10/16
L5 100
D14
CP1 ICP-F10
CP2 ICP-F10
CP3 ICP-F10
Q29 2SC4097(QR)
R57 220
R56 100
C57 47/16
C58 47/16
Q28 2SA1577 (QR)
L3 100
R55 1.2K
Q19 DTC114EU
C56 100/6.3
C55 47/16
C54 47/16
R87 47K
PB2
CN10
AVRG FM ADJ
SW POINT ADJ
AVRG FM
DRUM FF
CTL PULSE
V PULSE
P MUTE
VIDEO
NC
SECAM DET
SPCL PB
LP SPCL PB
AUD BIAS
AUDIO FM
FMA FF
From/To 0 4 SERVO (A/S/M) CN404 (Page 3-26)
CN7
AUDIO INT
S CLK
S DATA
From/To 2 0 TIMER CN4 (Page 3-66)
REC/PB 3.0 Vp-p
CN4
UNSW 5.8V
GND
UNSW 12V
SWD 5V
GND
From 0 2 REGULATOR(1) CN2 (Page 3-22)
A
B
C


REC 0.25 Vp-p
REC 72.0 Vp-p
REC 2.8 Vp-p
REC/PB 1.3 Vp-p
REC 0.65 Vp-p
REC/PB 0.8 Vp-p
PB 0.4 Vp-p
From/To 04 AUDIO SW (A/S/M) CN4 (Page 3-28)
From 04 AUDIO SW (A/S/M) CN8 (Page 3-28)
From/To 12 A/C HEAD
From/To 10 VIDEO INTERFACE CN5 (Page 3-42)
From/To 43 REC AMP CN201 (Page 3-75)
From/To 04 MECHACON (A/S/M) CN610 (Page 3-30)
AUX
GND
AUX IN(R)
AUX IN(L)
GND
VARI OUT(R)
VARI OUT(L)
GND
FIX OUT(R)
FIX OUT(L)
AUDIO 12V
HP LEVEL
UNSW 12V
CN6
TUR IN(L)
GND
TUR IN(R)
CN5
R/P HEAD
R/P HEAD
GND
AE HEAD
CN11
TEXT
S
AUX
PB ADJ 1
PB ADJ 2
BIAS ADJ 1
BIAS ADJ 2
BIAS TP(-)
BIAS TP(+)
FE TP
IC2 JCP0013
IC2
IC1 PB20438B
IC1
UNSW 12 V
SWD 5 V
NC
NR RESP(R)
HIFI MODE
NOR. MODE
AUX/SC/TU
MUTE(L)
TU
CH1/ST/CH2
RF AGC DET
RF OUT
LINE OUT
H.P. OUT(R)
Vcc(ALL 12V)
GND
H.P. OUT(L)
H.P. CTL
NOR P.B NF
NOR P.B OUT
BIL CTL
NOR REC OUT
NOR REC EQ
NOR AGC DET
1/2 Vcc(12V)
HI FI/MIX/NORM
NR RESP(L)
WEGHT(R)
NR AC GND
ENC OUT(R)
ENC NF(R)
AGC DET(R)
REC LEV(R)
1/2 Vcc(5V)
MOD IN(R)
NC
PB HIFI MUTE
LNR OUT(R)
LNR IN(R)
REC FM OUT(R)
GND
A. FF IN
Vcc(5V)
P.B FM IN(L)
REC FM OUT(L)
LNR IN(L)
LNR OUT(L)
MOD IN(L)
DO CTL
REC LEV(L)
AGC DET(L)
ENC NF(L)
ENC OUT(L)
WEGHT(L)
D22
R23 27K
C76 0.022
D5 DAN202U
C6 10/16
C83 680P
R27 0
R24 1K
C27 10/16
R25 330
D5
C31 2.2/50
C28 10/16
C41 10/16
C26 47/16
C25 10/16
C21 10/16
L1 7m
C11 47/6.3
C10 33/10
C9 2.2/50
C4 330P
C5 0.033
T1
C1 0.0022
R2 33K
Q1 2SC4097 (QR)
C2 0.0033
R1 10
R3 82
DTA114EU
R12 0
Q6
C3 4.7/25
D1 DAN202U
Q13 DTA143EU
Q11 DTA124EU
D3 DAN202U
Q5
DAN202U
C51 10/16
C47 33/10
C53 10/16
C52 47/10
C49 22/16
C48 100/6.3
R37 2.2K
L2 100
C45 100/6.3
R116 27K
R34 6.8K
R33 1K
C44 33/10
C40 10/16
C42 22/16
C39 47/10
C38 10/16
C43 10/16
R111 1.5K
C46 0.001
BPF1
BPF 2
R35 2.2K
R36 2.2K
R40 0
R88 1K
D10 DAN202U
Q4 2SC4081 (QR)
R31 4.7
R29 47K
C35 0.0068
C36 0.015
C75 0.015
R30 47K
C37 0.0068
Q5 2SC4081 (QR)
C32 4.7/25
T2
C34 0.022
Q10 DTA124EU
CN1
SWD 5V
FMA FF OUT
REC FM OUT
PB FM IN
GND
AT FM IN
AUD REC ST
FMA CASS
CN9
AUD CLK
AUD DATA
FMA REC ST
MUTE
FMA CASS
AUD ERACE
AUD REC ST
DOC
AUD RESET
NC
NC
CN2
FE HEAD
E
F
G
H

P3-37,38,39-b

P3-37,38,39-d

## 3.18 AUDIO UNIT CIRCUIT BOARD

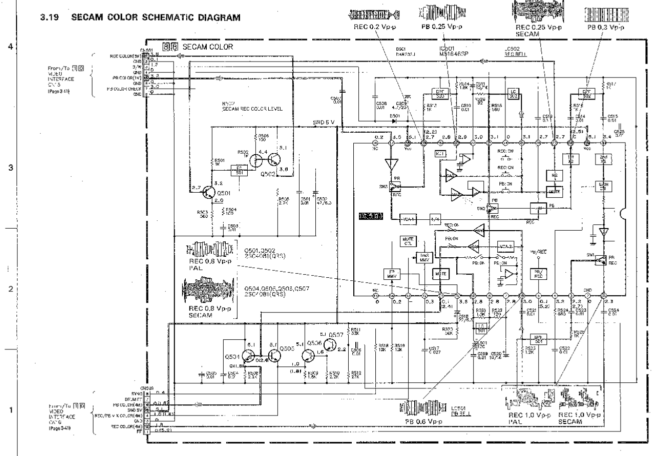

PB10395-01-04
PB10395
AUDIO UNIT PWB ASSY
1
2
3
4
A
B

∘ Address of chip parts

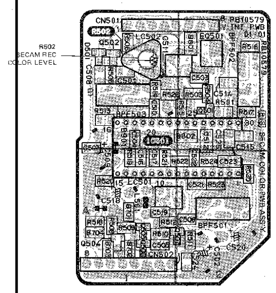
A-1 — Address

| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q1 | A-4 |
| Q4 | A-4 |
| Q5 | A-4 |
| Q8 | A-4 |
| Q10 | A-4 |
| Q11 | A-4 |
| Q13 | A-4 |
| Q16 | A-3 |
| Q19 | B-2 |
| Q23 | A-3 |
| Q26 | B-1 |
| Q27 | B-2 |
| Q28 | B-2 |
| Q29 | B-2 |
| **DIODE** | |
| D1 | A-4 |
| D3 | A-4 |
| D4 | A-4 |
| D5 | A-3 |
| D6 | A-1 |
| D7 | A-1 |
| D8 | A-1 |
| D10 | B-2 |
| D16 | B-1 |
| D17 | B-1 |
| **RESISTOR** | |
| R1 | A-4 |
| R2 | A-4 |
| R3 | A-4 |
| R12 | A-4 |
| R22 | B-2 |
| R23 | B-4 |
| R24 | A-3 |
| R25 | A-3 |
| R27 | A-3 |
| R29 | A-4 |
| R30 | A-4 |
| R31 | A-4 |
| R33 | B-4 |
| R34 | B-4 |
| R35 | B-3 |
| R36 | B-3 |
| R37 | B-3 |
| R40 | B-2 |
| R41 | A-1 |
| R42 | A-1 |
| R45 | A-3 |
| R46 | A-3 |
| R51 | B-1 |
| R52 | B-1 |
| R53 | B-1 |
| R54 | B-1 |
| R55 | B-2 |
| R56 | B-2 |
| R57 | B-2 |
| R58 | A-1 |
| R62 | A-1 |
| R63 | A-1 |
| R64 | A-1 |
| R65 | A-1 |
| R66 | A-1 |
| R67 | A-1 |
| R68 | A-1 |
| R69 | A-1 |
| R70 | A-1 |
| R71 | A-1 |
| R72 | A-1 |
| R73 | A-1 |
| R74 | B-1 |
| R75 | B-1 |
| R76 | A-1 |
| R77 | A-1 |
| R78 | B-1 |
| R79 | B-1 |
| R80 | B-1 |
| R81 | B-1 |
| R82 | B-1 |
| R83 | B-1 |
| R84 | B-1 |
| R85 | B-1 |
| R86 | A-1 |
| R87 | A-2 |
| R88 | B-2 |
| R91 | A-3 |
| R92 | A-3 |
| R93 | A-2 |
| R94 | A-2 |
| R95 | A-3 |
| R103 | A-1 |
| R106 | A-1 |
| R108 | B-1 |
| R110 | A-1 |
| R111 | B-3 |
| R114 | B-2 |
| R115 | B-3 |
| **CAPACITOR** | |
| C1 | A-4 |
| C2 | A-4 |
| C4 | A-4 |
| C35 | A-4 |
| C36 | B-4 |
| C37 | A-4 |
| C46 | B-3 |
| C60 | B-1 |
| C70 | B-1 |
| C71 | A-1 |
| C72 | A-1 |
| C75 | B-4 |
| C76 | A-4 |
| C81 | B-1 |
| C82 | B-1 |
| C83 | A-4 |

## 3.19 SECAM COLOR SCHEMATIC DIAGRAM


REC 0.2 Vp-p
PB 0.25 Vp-p
REC 0.25 Vp-p
SECAM
PB 0.3 Vp-p
SECAM COLOR
From/To
AUDIO
INTERFACE
R507
SECAM REC COLOR LEVEL
SWD 5 V
REC 0.8 Vp-p
PAL
Q501,Q502
2SC4081(QRS)
Q504,Q505,Q506,Q507
2SC4081(QRS)
REC 0.8 Vp-p
SECAM
PB 0.6 Vp-p
REC 1.0 Vp-p
PAL
REC 1.0 Vp-p
SECAM
From/To
VIDEO
INTERFACE
1
2
3
4

## 3.20 SECAM COLOR CIRCUIT BOARD


R502
SECAM REC
COLOR LEVEL
CN501
PB10579
SECAM COLOR PWB ASSY
Q502
Q501
Q504
BPF501
LC501
LC502
CN502
A
B

∘ Address of chip parts

A-1 — Address

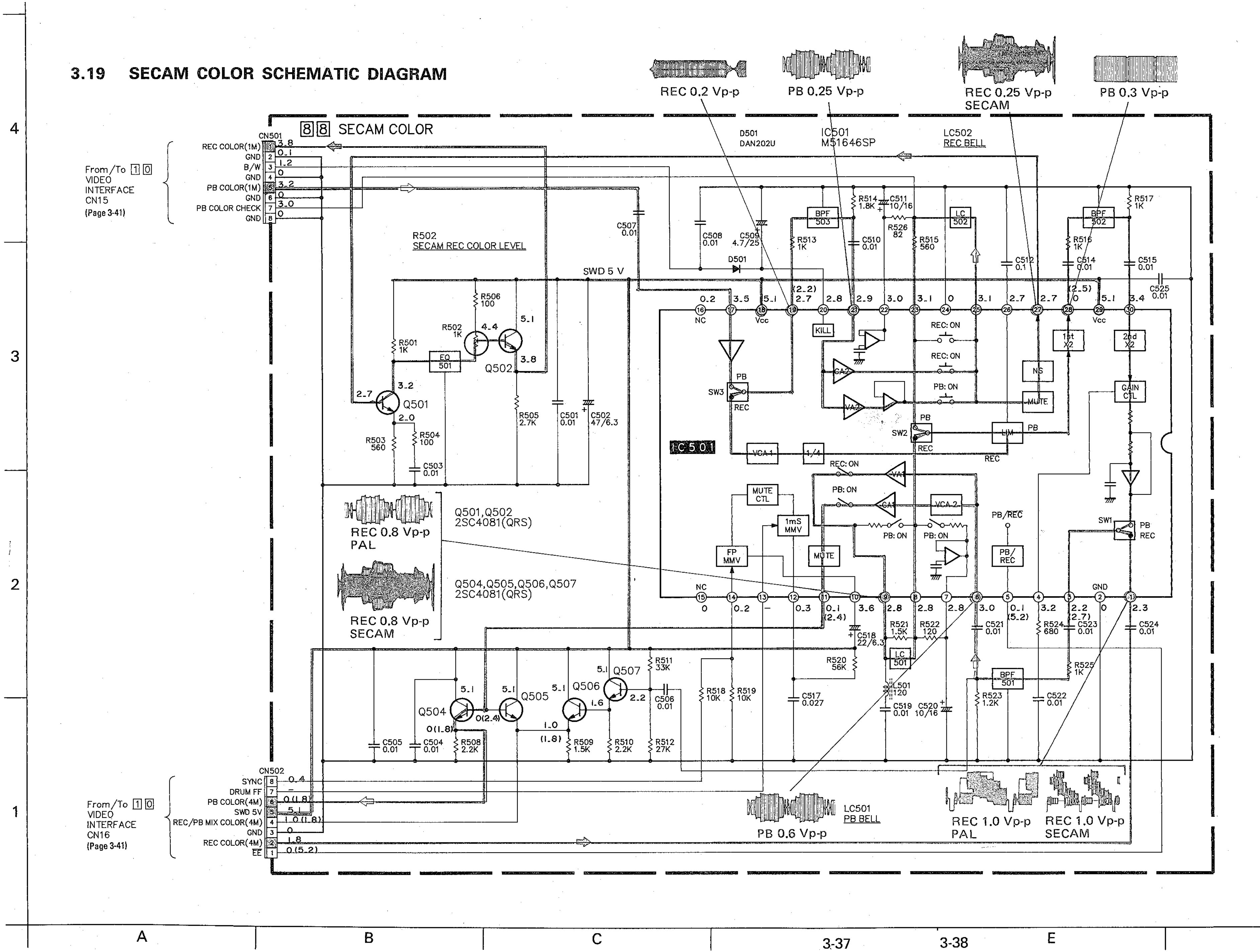
| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q501 | B-2 |
| Q502 | B-1 |
| Q504 | A-1 |
| Q505 | A-1 |
| Q506 | A-1 |
| Q507 | A-2 |
| **DIODE** | |
| D501 | B-1 |
| **RESISTOR** | |
| R501 | B-2 |
| R503 | B-2 |
| R504 | B-2 |
| R505 | B-1 |
| R506 | B-1 |
| R508 | A-1 |
| R509 | A-1 |
| R510 | A-1 |
| R511 | A-2 |
| R512 | A-1 |
| R513 | B-1 |
| R514 | B-1 |
| R515 | B-2 |
| R516 | B-2 |
| R517 | B-2 |
| R518 | A-1 |
| R519 | A-1 |
| R520 | A-1 |
| R521 | A-1 |
| R522 | A-2 |
| R523 | A-2 |
| R524 | A-2 |
| R525 | A-2 |
| R526 | B-1 |
| **CAPACITOR** | |
| C501 | B-1 |
| C503 | B-2 |
| C504 | B-1 |
| C505 | A-1 |
| C506 | A-2 |
| C507 | A-1 |
| C508 | B-1 |
| C510 | B-1 |
| C512 | B-2 |
| C514 | B-2 |
| C515 | A-2 |
| C517 | A-1 |
| C519 | A-1 |
| C521 | A-2 |
| C522 | A-2 |
| C523 | A-2 |
| C524 | A-2 |

A B C 3-37 3-38 E F G H I J K 3-39

P3-37,38,39-a

P3-37,38,39-c

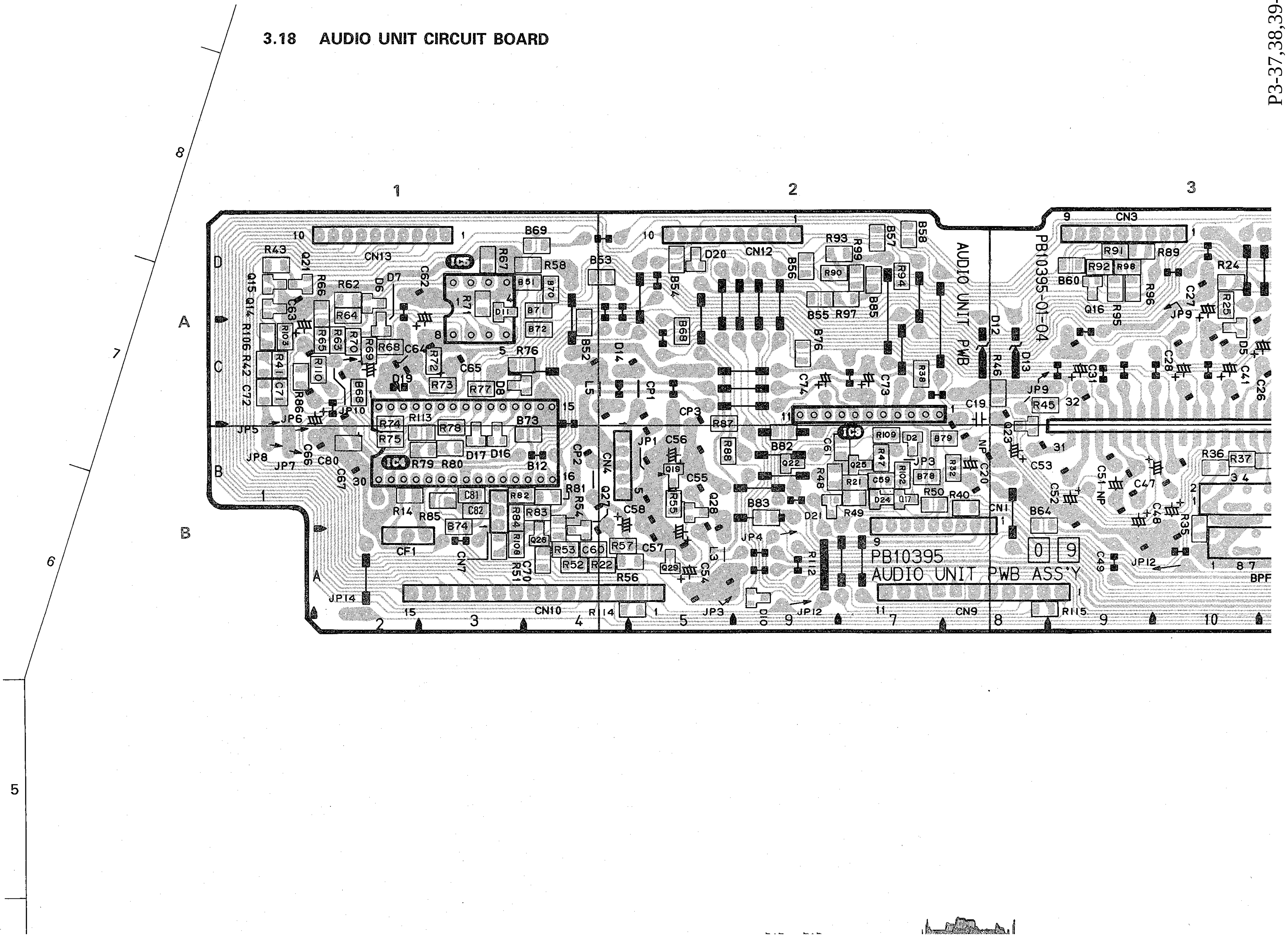
## 3.19 SECAM COLOR SCHEMATIC DIAGRAM



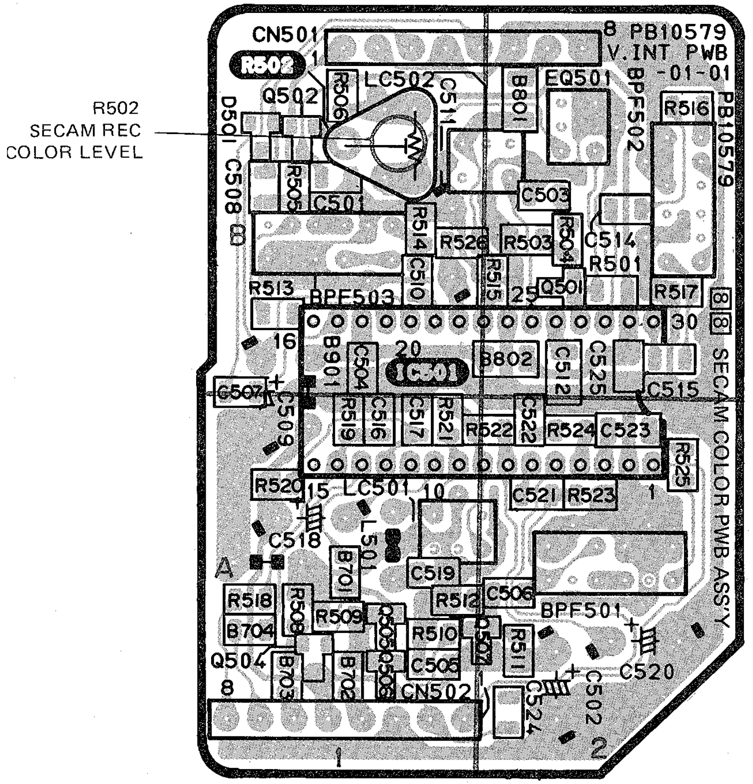
8 8 SECAM COLOR
REC 0.2 Vp-p
PB 0.25 Vp-p
REC 0.25 Vp-p SECAM
PB 0.3 Vp-p
From/To 1 0 VIDEO INTERFACE CN15 (Page 3-41)
CN501
REC COLOR(1M)
GND
B/W
GND
PB COLOR(1M)
GND
PB COLOR CHECK
GND
3.8
0.1
1.2
0
3.2
0
3.0
0
D501 DAN202U
IC501 M51646SP
LC502 REC BELL
R502 SECAM REC COLOR LEVEL
SWD 5 V
R506 100
R502 1K
4.4
5.1
3.8
Q502
R501 1K
EQ 501
2.7
3.2
Q501
2.0
R503 560
R504 100
C503 0.01
R505 2.7K
C501 0.01
C502 47/6.3
C507 0.01
C508 0.01
C509 4.7/25
D501
BPF 503
R513 1K
R514 1.8K
C511 10/16
C510 0.01
R526 82
R515 560
LC 502
C512 0.1
BPF 502
R516 1K
C514 0.01
R517 1K
C515 0.01
C525 0.01
0.2
3.5
5.1
(2.2) 2.7
2.8
2.9
3.0
3.1
0
3.1
2.7
2.7
(2.5) 0
5.1
3.4
16 NC
17
18 Vcc
19
20
21
22
23
24
25
26
27
28
29 Vcc
30
KILL
SW3
PB
REC
REC: ON
REC: ON
PB: ON
CA2
VA2
NS
MUTE
1st X2
2nd X2
GAIN CTL
SW2
LIM
IC501
VCA1
1/4
VA1
CA1
VCA 2
MUTE CTL
1mS MMV
FP MMV
MUTE
PB: ON
PB: ON
PB: ON
PB/REC
PB/REC
SW1
PB
REC
REC
15 NC
14
13
12
11
10
9
8
7
6
5
4
3
2 GND
1
0
0.2
–
0.3
0.1 (2.4)
3.6
2.8
2.8
2.8
3.0
0.1 (5.2)
3.2
2.2 (2.7)
0
2.3
REC 0.8 Vp-p PAL
REC 0.8 Vp-p SECAM
Q501,Q502 2SC4081(QRS)
Q504,Q505,Q506,Q507 2SC4081(QRS)
C518 22/6.3
R521 1.5K
R522 120
C521 0.01
R524 680
C523 0.01
C524 0.01
R520 56K
LC 501
L501 120
C519 0.01
C520 10/16
BPF 501
R523 1.2K
C522 0.01
R525 1K
R511 33K
C506 0.01
R518 10K
R519 10K
C517 0.027
Q504
Q505
Q506
Q507
5.1
5.1
5.1
5.1
2.2
1.6
0(1.8)
0(2.4)
1.0
(1.8)
C505 0.01
C504 0.01
R508 2.2K
R509 1.5K
R510 2.2K
R512 27K
From/To 1 0 VIDEO INTERFACE CN16 (Page 3-41)
CN502
SYNC
DRUM FF
PB COLOR(4M)
SWD 5V
REC/PB MIX COLOR(4M)
GND
REC COLOR(4M)
EE
0.4
–
0(1.8)
5.1
1.0(1.8)
0
1.8
0(5.2)
LC501 PB BELL
PB 0.6 Vp-p
REC 1.0 Vp-p PAL
REC 1.0 Vp-p SECAM
4
3
2
1
A
B
C
3-37
3-38
E
F

SECA
COLOR

## 3.18 AUDIO UNIT CIRCUIT BOARD


PB10395
AUDIO UNIT PWB ASS'Y
PB10395-01-04
AUDIO UNIT PWB
CN13
CN12
CN3
CN10
CN9
CN4
CN7
CN1
IC4
IC5
CF1
BPF

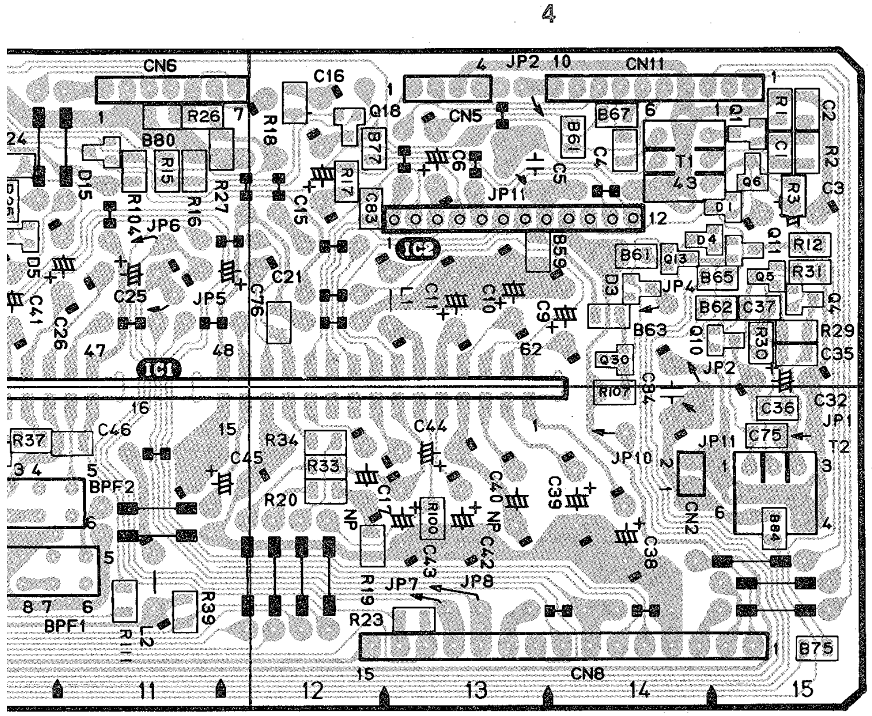
## 3.20 SECAM COLOR CIRCUIT BOARD


R502
SECAM REC
COLOR LEVEL
CN501
R502
Q502
D501
C508
B
LC502
C511
B801
EQ501
BPF502
PB10579
V.INT PWB
-01-01
R516
PB10579
R506
R505
C501
R514
C510
R526
R503
R504
C503
C514
R501
R515
Q501
R517
R513
BPF503
16
20
25
30
B901
C504
IC501
B802
C512
C525
C515
C507
C509
R519
C516
C517
R521
R522
C522
R524
C523
R525
SECAM COLOR PWB ASS'Y
R520
15
LC501
10
C521
R523
1
C518
L501
B701
C519
A
R518
R508
R509
Q505
Q506
R512
C506
BPF501
R510
Q502
R511
C520
B704
Q504
B703
B702
C505
CN502
C502
C524
8
1
2

● Address of chip parts

A-1 — Address

| REF. No. | LOCATION | REF. No. | LOCATION | REF. No. | LOCATION |
|---|---|---|---|---|---|
| **TRANSISTOR** | | **RESISTOR** | | **CAPACITOR** | |
| Q501 | B-2 | R501 | B-2 | C501 | B-1 |
| Q502 | B-1 | R503 | B-2 | C503 | B-2 |
| Q504 | A-1 | R504 | B-2 | C504 | B-1 |
| Q505 | A-1 | R505 | B-1 | C505 | A-1 |
| Q506 | A-1 | R506 | B-1 | C506 | A-2 |
| Q507 | A-2 | R508 | A-1 | C507 | A-1 |
| | | R509 | A-1 | C508 | B-1 |
| | | R510 | A-1 | C510 | B-1 |
| **DIODE** | | R511 | A-2 | C512 | B-2 |
| D501 | B-1 | R512 | A-1 | C514 | B-2 |
| | | R513 | B-1 | C515 | A-2 |
| | | R514 | B-1 | C517 | A-1 |
| | | R515 | B-2 | C519 | A-1 |
| | | R516 | B-2 | C521 | A-2 |
| | | R517 | B-2 | C522 | A-2 |
| | | R518 | A-1 | C523 | A-2 |
| | | R519 | A-1 | C524 | A-2 |
| | | R520 | A-1 | | |
| | | R521 | A-1 | | |
| | | R522 | A-2 | | |
| | | R523 | A-2 | | |
| | | R524 | A-2 | | |
| | | R525 | A-2 | | |
| | | R526 | B-1 | | |



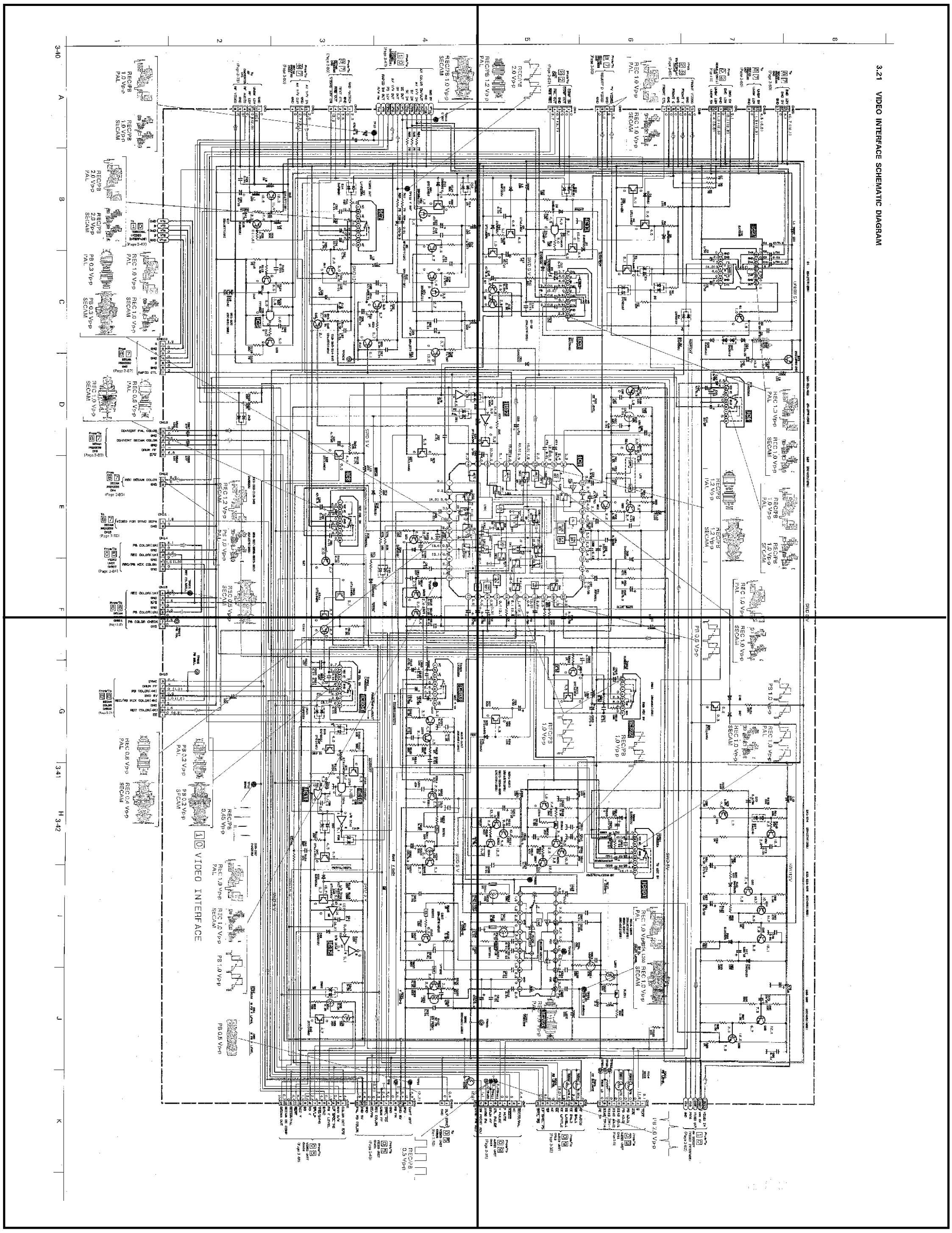
◎ Address of chip parts

A-1 — Address

| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q1 | A-4 |
| Q4 | A-4 |
| Q5 | A-4 |
| Q6 | A-4 |
| Q10 | A-4 |
| Q11 | A-4 |
| Q13 | A-4 |
| Q16 | A-3 |
| Q19 | B-2 |
| Q23 | A-3 |
| Q26 | B-1 |
| Q27 | B-2 |
| Q28 | B-2 |
| Q29 | B-2 |
| **DIODE** | |
| D1 | A-4 |
| D3 | A-4 |
| D4 | A-4 |
| D5 | A-3 |
| D6 | A-1 |
| D7 | A-1 |
| D8 | A-1 |
| D10 | B-2 |
| D16 | B-1 |
| D17 | B-1 |
| **RESISTOR** | |
| R1 | A-4 |
| R2 | A-4 |
| R3 | A-4 |
| R12 | A-4 |
| R22 | B-2 |
| R23 | B-4 |
| R24 | A-3 |
| R25 | A-3 |
| R27 | A-3 |
| R29 | A-4 |
| R30 | A-4 |
| R31 | A-4 |
| R33 | B-4 |
| R34 | B-4 |
| R35 | B-3 |
| R36 | B-3 |
| R37 | B-3 |
| R40 | B-2 |
| R41 | A-1 |
| R42 | A-1 |
| R45 | A-3 |
| R46 | A-3 |
| R51 | B-1 |
| R52 | B-1 |
| R53 | B-1 |
| R54 | B-1 |
| R55 | B-2 |
| R56 | B-2 |
| R57 | B-2 |
| R58 | A-1 |
| R62 | A-1 |
| R63 | A-1 |
| R64 | A-1 |
| R65 | A-1 |
| R66 | A-1 |
| R67 | A-1 |
| R68 | A-1 |
| R69 | A-1 |
| R70 | A-1 |
| R71 | A-1 |
| R72 | A-1 |
| R73 | A-1 |
| R74 | B-1 |
| R75 | B-1 |
| R76 | A-1 |
| R77 | A-1 |
| R78 | B-1 |
| R79 | B-1 |
| R80 | B-1 |
| R81 | B-1 |
| R82 | B-1 |
| R83 | B-1 |
| R84 | B-1 |
| R85 | B-1 |
| R86 | A-1 |
| R87 | A-2 |
| R88 | B-2 |
| R91 | A-3 |
| R92 | A-3 |
| R93 | A-2 |
| R94 | A-2 |
| R95 | A-3 |
| R103 | A-1 |
| R106 | A-1 |
| R108 | B-1 |
| R110 | A-1 |
| R111 | B-3 |
| R114 | B-2 |
| R115 | B-3 |
| **CAPACITOR** | |
| C1 | A-4 |
| C2 | A-4 |
| C4 | A-4 |
| C35 | A-4 |
| C36 | B-4 |
| C37 | A-4 |
| C46 | B-3 |
| C60 | B-1 |
| C70 | B-1 |
| C71 | A-1 |
| C72 | A-1 |
| C75 | B-4 |
| C76 | A-4 |
| C81 | B-1 |
| C82 | B-1 |
| C83 | A-4 |

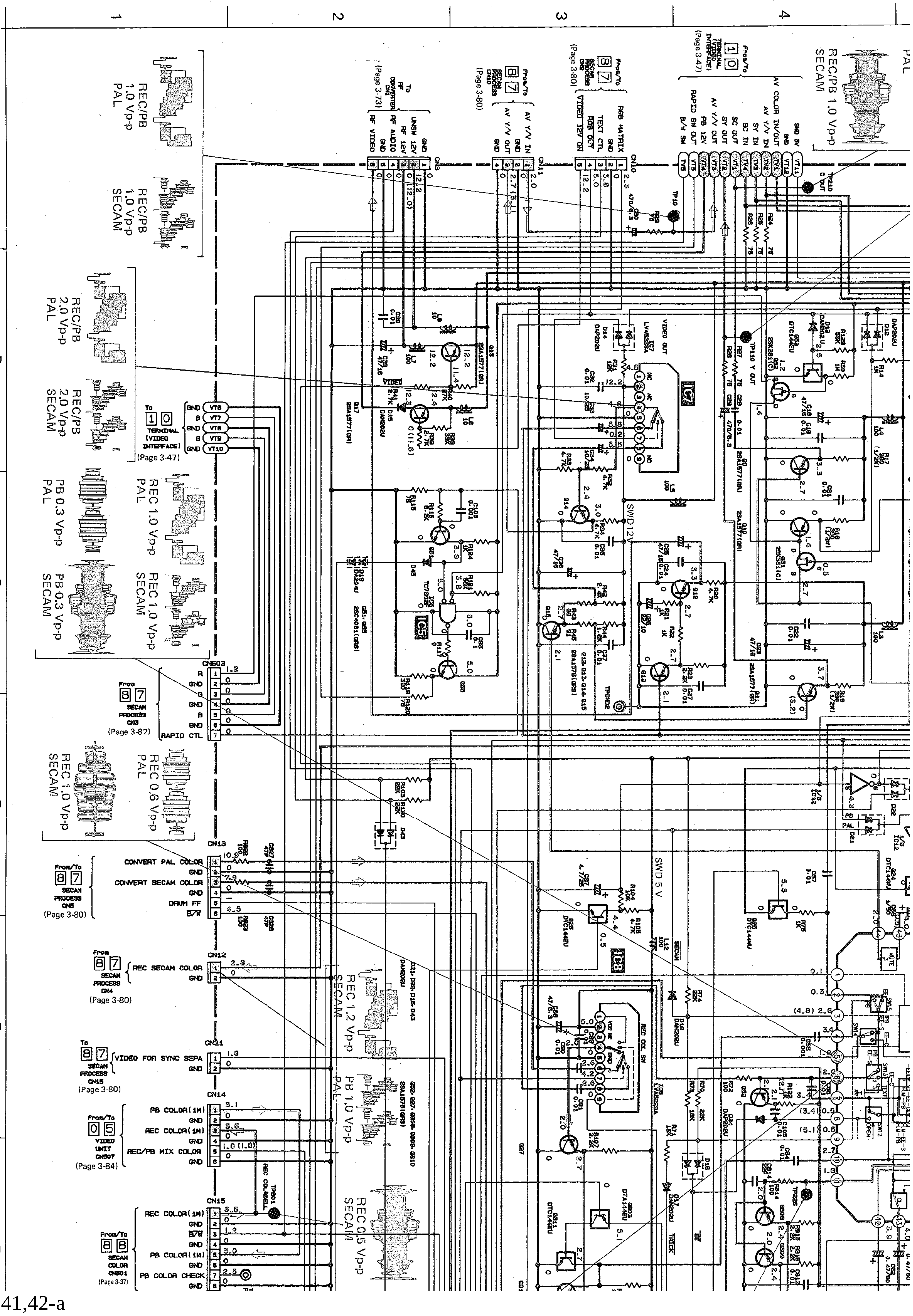
P3-40,41,42-a

P3-40,41,42-b

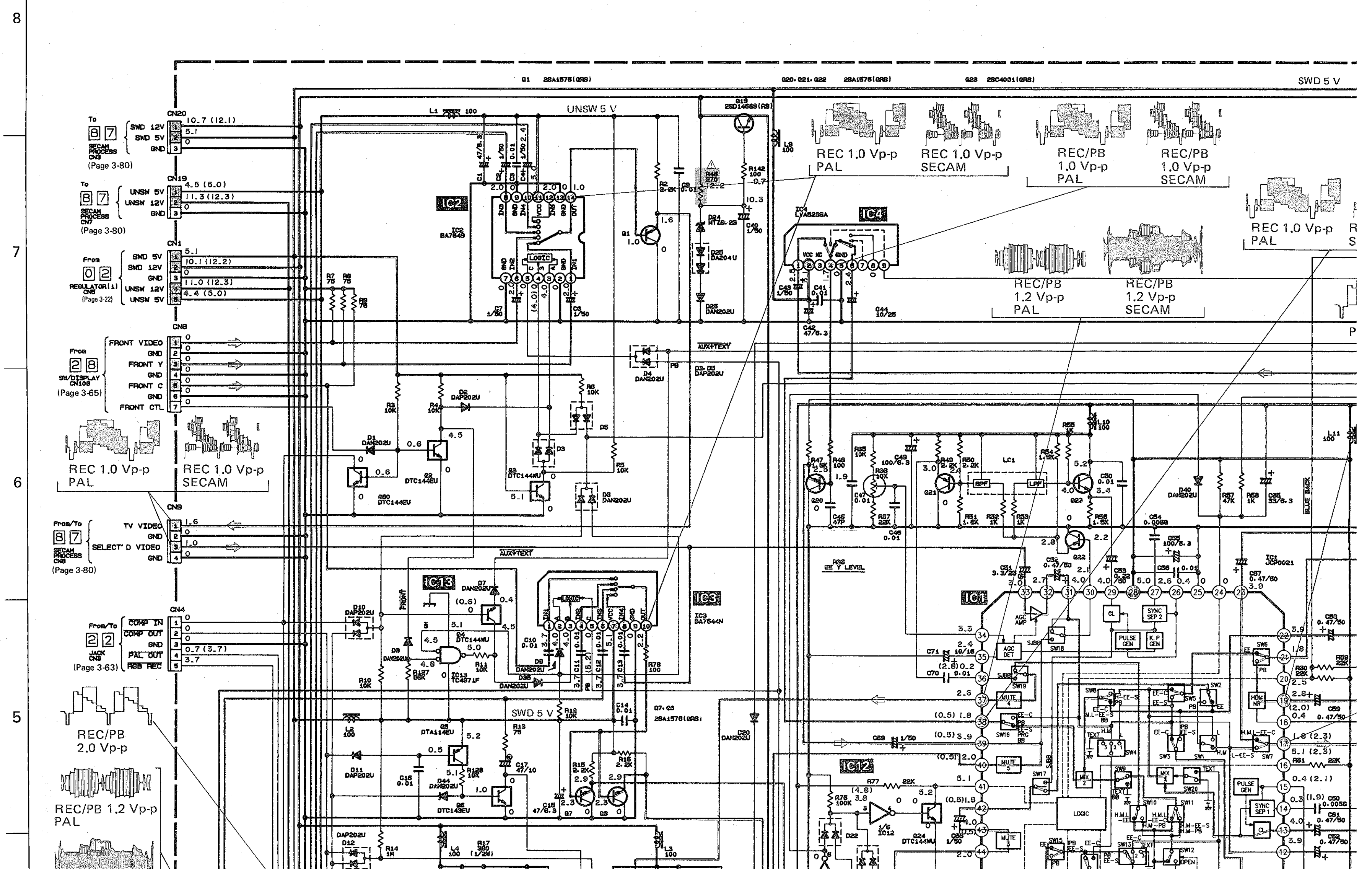

3.21 VIDEO INTERFACE SCHEMATIC DIAGRAM
10 VIDEO INTERFACE
3-40
3-41
3-42

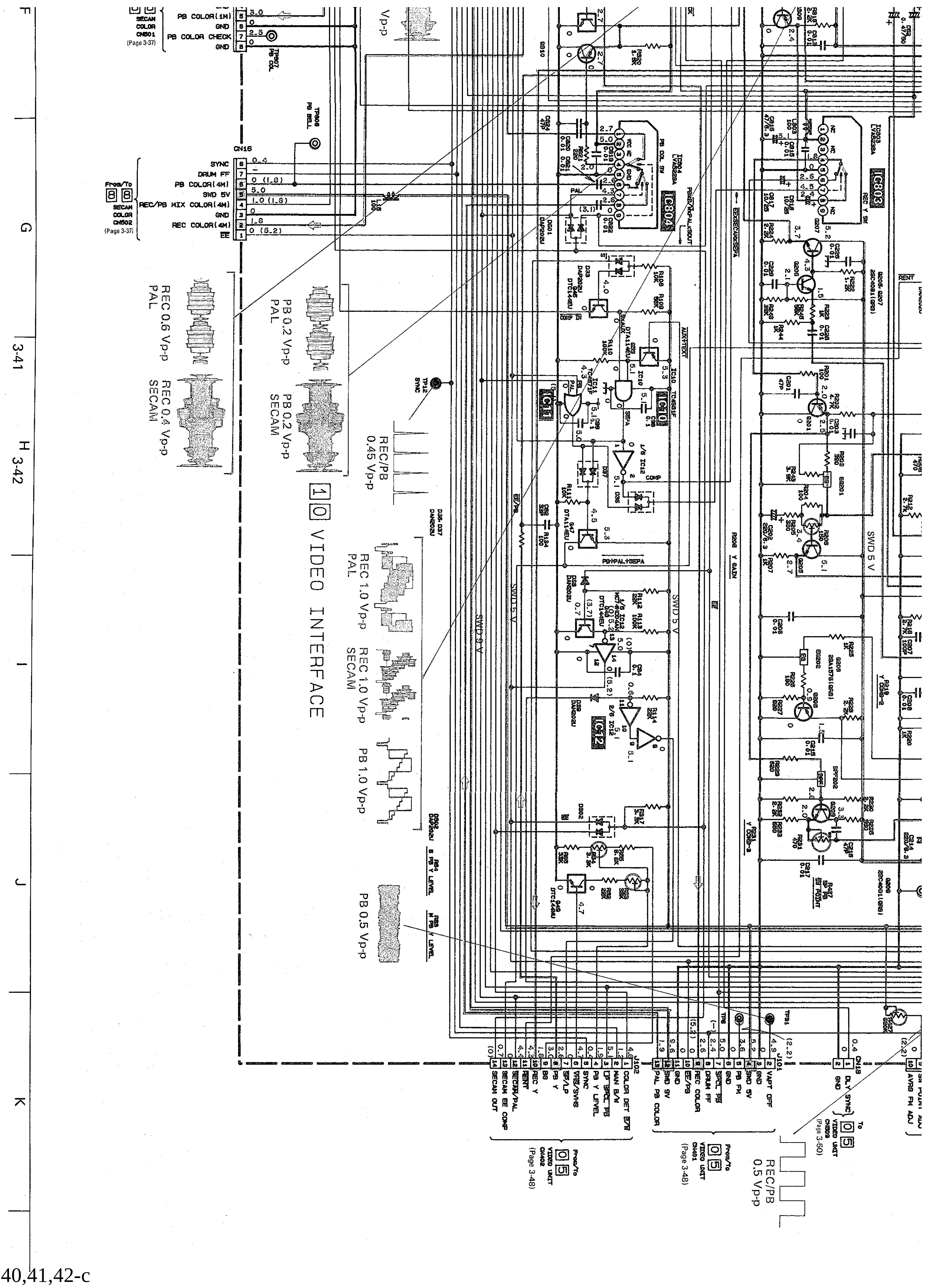
P3-40,41,42-c

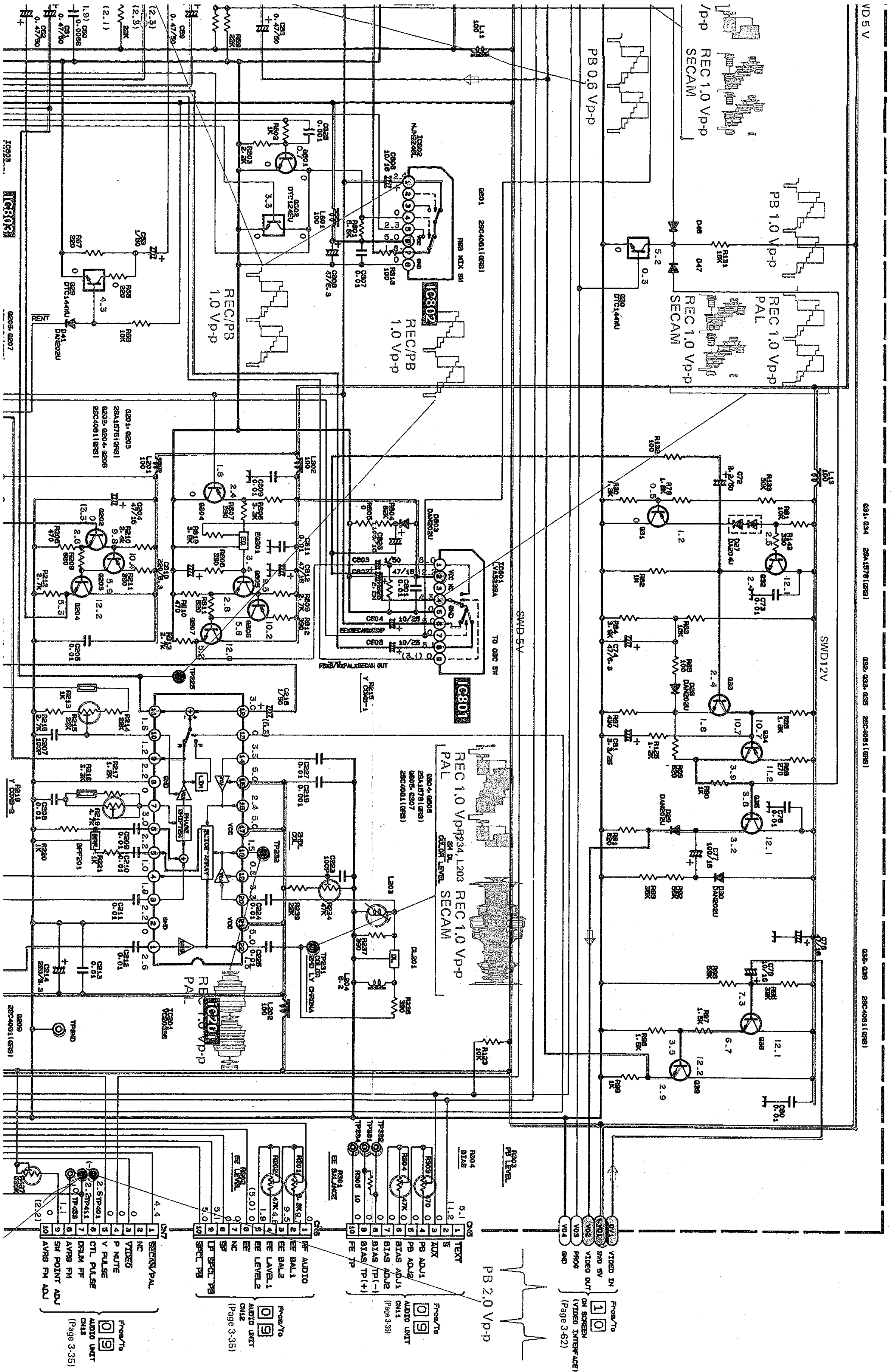
P3-40,41,42-d


1
2
3
4
A
B
C
D
E
F
REC/PB 1.0 Vp-p PAL
REC/PB 1.0 Vp-p SECAM
REC/PB 2.0 Vp-p PAL
REC/PB 2.0 Vp-p SECAM
REC 1.0 Vp-p PAL
REC 1.0 Vp-p SECAM
PB 0.3 Vp-p PAL
PB 0.3 Vp-p SECAM
REC 0.6 Vp-p PAL
REC 1.0 Vp-p SECAM
REC 1.2 Vp-p SECAM
PB 1.0 Vp-p PAL
REC 0.5 Vp-p SECAM
REC/PB 1.0 Vp-p SECAM
PAL
CN3
To RF CONVERTER CN1 (Page 3-73)
GND
UNSW 12V
RF 12V
RF AUDIO
GND
RF VIDEO
CN11
From/To 8 7 SECAM PROCESS CN10 (Page 3-80)
AV Y/V IN
GND
AV Y/V OUT
GND
CN10
From/To 8 7 SECAM PROCESS CN9 (Page 3-80)
RGB MATRIX
GND
TEXT CTL
RGB OUT
VIDEO 12V ON
From/To 1 0 TERMINAL (VIDEO INTERFACE) (Page 3-47)
SW5 5V
GND
AV COLOR IN/OUT
AV Y/V IN
SY IN
SC IN
SY OUT
AV Y/V OUT
PB 12V
RAPID SW OUT
B/W SW
VT1
VT2
VT3
VT4
VT5
VT6
VT7
VT8
VT9
VT10
VT11
VT12
TP210 C OUT
TP10
TP110 Y OUT
To 1 0 TERMINAL (VIDEO INTERFACE) (Page 3-47)
IC7 LVA5235A
IC5 TC7S08F
IC8 LVA5220A
SWD 12V
SWD 5V
TP602
CN603
From 8 7 SECAM PROCESS CN8 (Page 3-82)
R
GND
G
GND
B
GND
RAPID CTL.
CN13
From/To 8 7 SECAM PROCESS CN5 (Page 3-80)
CONVERT PAL COLOR
GND
CONVERT SECAM COLOR
GND
DRUM FF
B/W
CN12
From 8 7 SECAM PROCESS CN4 (Page 3-80)
REC SECAM COLOR
GND
CN21
To 8 7 SECAM PROCESS CN15 (Page 3-80)
VIDEO FOR SYNC SEPA
GND
CN14
From/To 0 5 VIDEO UNIT CN507 (Page 3-84)
PB COLOR(1M)
GND
REC COLOR(1M)
GND
REC/PB MIX COLOR
GND
CN15
From/To 8 8 SECAM COLOR CN501 (Page 3-37)
REC COLOR(1M)
GND
B/W
GND
PB COLOR(1M)
GND
PB COLOR CHECK
GND
TP601 REC COL/SEL
TP226
REC COL SW
SECAM
TRACK
EE
MUTE

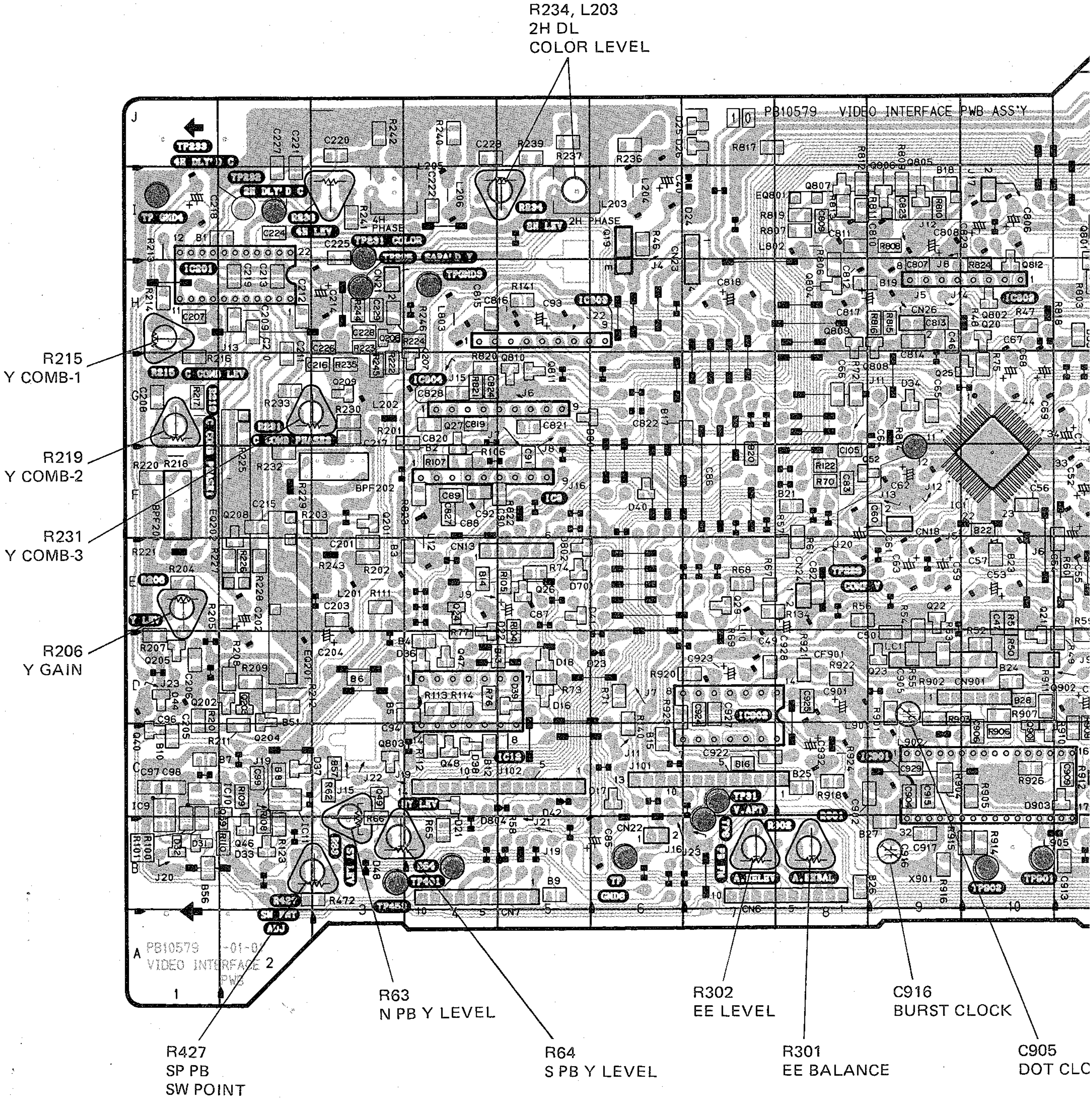
## 3.21 VIDEO INTERFACE SCHEMATIC DIAGRAM


8
7
6
5
To 8 7 SECAM PROCESS CN3 (Page 3-80)
SWD 12V
SWD 5V
GND
CN20
10.7 (12.1)
5.1
To 8 7 SECAM PROCESS CN7 (Page 3-80)
UNSW 5V
UNSW 12V
CN19
4.5 (5.0)
11.3 (12.3)
From 0 2 REGULATOR(1) CN5 (Page 3-22)
CN1
10.1 (12.2)
11.0 (12.3)
4.4 (5.0)
From 2 8 SW/DISPLAY CN108 (Page 3-65)
CN8
FRONT VIDEO
FRONT Y
FRONT C
FRONT CTL
From/To 8 7 SECAM PROCESS CN8 (Page 3-80)
CN9
TV VIDEO
SELECT' D VIDEO
From/To 2 2 JACK CN8 (Page 3-63)
CN4
COMP IN
COMP OUT
PAL OUT
RGB REC
0.7 (3.7)
3.7
REC 1.0 Vp-p PAL
REC 1.0 Vp-p SECAM
REC/PB 2.0 Vp-p
REC/PB 1.2 Vp-p PAL
REC/PB 1.0 Vp-p PAL
REC/PB 1.0 Vp-p SECAM
REC/PB 1.2 Vp-p SECAM
Q1 2SA1576(QRS)
Q20·Q21·Q22 2SA1576(QRS)
Q23 2SC4081(QRS)
Q7·Q8 2SA1576(QRS)
SWD 5 V
UNSW 5 V
IC2 BA7649
IC3 BA7644N
IC4 LVA523GA
IC13 TC4S71F
IC12
IC1 JCP0021
LOGIC
AUX+TEXT
FRONT
PB
EE Y LEVEL
BLUE BACK
Q19 2SD1468S(RS)
D24 MTZ6.2B
D25 DA204U
D26 DAN202U
D3·D5 DAP202U
D4 DAN202U
D6 DAN202U
D1 DAN202U
D2 DAP202U
D7 DAN202U
D8 DAN202U
D9 DAN202U
D10 DAP202U
D11 DAP202U
D12 DAP202U
D20 DAN202U
D22
D38 DAN202U
D40 DAN202U
D44 DAN202U
Q2 DTC144EU
Q3 DTC144WU
Q4 DTC144WU
Q5 DTC143EU
Q6 DTA114EU
Q24 DTC144WU
Q60 DTC144EU
L1 100
L2 100
L3 100
L4 100
L9 100
L10 100
L11 100
LC1
BPF
LPF
AGC AMP
AGC DET
SYNC SEP 2
SYNC SEP 1
PULSE GEN
K.P GEN
HDM NR
MUTE
MIX
CL
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW9
SW10
SW11
SW12
SW13
SW15
SW16
SW17
SW18
SW19
SW20
EE-C
EE-S
H.M.L-EE-C
H.M.L-EE-S
H.M-PB
L-EE-S
TEXT
OPEN


10 VIDEO INTERFACE
PB COLOR(1M)
GND
PB COLOR CHECK
GND
SECAM COLOR CN501 (Page 3-37)
TP807 PB COL
TP806 PB BELL
CN16
SYNC
DRUM FF
PB COLOR(4M)
SWD 5V
REC/PB MIX COLOR(4M)
GND
REC COLOR(4M)
EE
From/To 8 8 SECAM COLOR CN502 (Page 3-37)
REC 0.6 Vp-p PAL
REC 0.4 Vp-p SECAM
PB 0.2 Vp-p PAL
PB 0.2 Vp-p SECAM
REC/PB 0.45 Vp-p
REC 1.0 Vp-p PAL
REC 1.0 Vp-p SECAM
PB 1.0 Vp-p
PB 0.5 Vp-p
REC/PB 0.5 Vp-p
IC802
IC303
IC10
IC11
IC12
SWD 5 V
SWD 9 V
J102
COLOR DET
MAN B/W
LP SPCL PB
PB Y LEVEL
SYNC
VHS/SVHS
SP/LP
PB Y
BG
REC Y
RENT
SECAM/PAL
SECAM EE COMP
SECAM OUT
From/To 0 5 VIDEO UNIT CN402 (Page 3-48)
J101
VAPT OFF
GND
SWD 5V
PB FM
GND
SPCL PB
DRUM FF
REC COLOR
EE/PB
GND
SWD 9V
PAL PB COLOR
From/To 0 5 VIDEO UNIT CN401 (Page 3-48)
CN18
DLY SYNC
GND
To 0 5 VIDEO UNIT CN303 (Page 3-50)
AVR9 FM ADJ
F
G
3-41
H 3-42
I
J
K


IC802
IC801
IC201
REC 1.0 Vp-p
SECAM
PB 0.6 Vp-p
PB 1.0 Vp-p
REC 1.0 Vp-p
PAL
REC/PB
1.0 Vp-p
REC 1.0 Vp-p
PAL
R234, L203
COLOR LEVEL
SWD 5V
SWD12V
VD 5 V
PB 2.0 Vp-p
CN7
SECAM/PAL
NC
VIDEO
V MUTE
P MUTE
CTL PULSE
DRUM FF
AVRS FM
SW POINT ADJ
AVRS FM ADJ
From/To
0 9
AUDIO UNIT
CN13
(Page 3-35)
CN6
RF AUDIO
EE BAL1
EE BAL2
EE LEVEL1
EE LEVEL2
EE
NC
SP
LP SPCL PB
SPCL PB
CN12
CN5
TEXT
S
IDX
PB ADJ1
PB ADJ2
BIAS ADJ1
BIAS ADJ2
BIAS (TP(-)
BIAS (TP(+)
FE TP
CN11
(Page 3-35)
VIDEO IN
SW5 5V
VIDEO OUT
PROG
GND
1 0
ON SCREEN
(VIDEO INTERFACE)
(Page 3-62)
EE LEVEL
EE BALANCE
BIAS
PB LEVEL
TP225
TP232
TP231
TP202
TP401
TP403

## 3.22 VIDEO INTERFACE CIRCUIT BOARD


PB10579 VIDEO INTERFACE PWB ASS'Y
PB10579 -01-0
VIDEO INTERFACE
PWB
TP239 4H DLY'D C
TP232 2H DLY'D C
TP GND4
R231 4H LEV
TP231 COLOR
R234 2H LEV
R215 C COMB LEV
R231 C COMB PHASE
R206 Y LEV
R427 SW PT ADJ
TP453
TP301
R302 A/EELEV
R301 A/EEBAL
TP901
TP903
1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
6
5
4
3
2
1
A
B
C

R234, L203
2H DL
COLOR LEVEL

R215
Y COMB-1

R219
Y COMB-2

R231
Y COMB-3

R206
Y GAIN

R427
SP PB
SW POINT

R63
N PB Y LEVEL

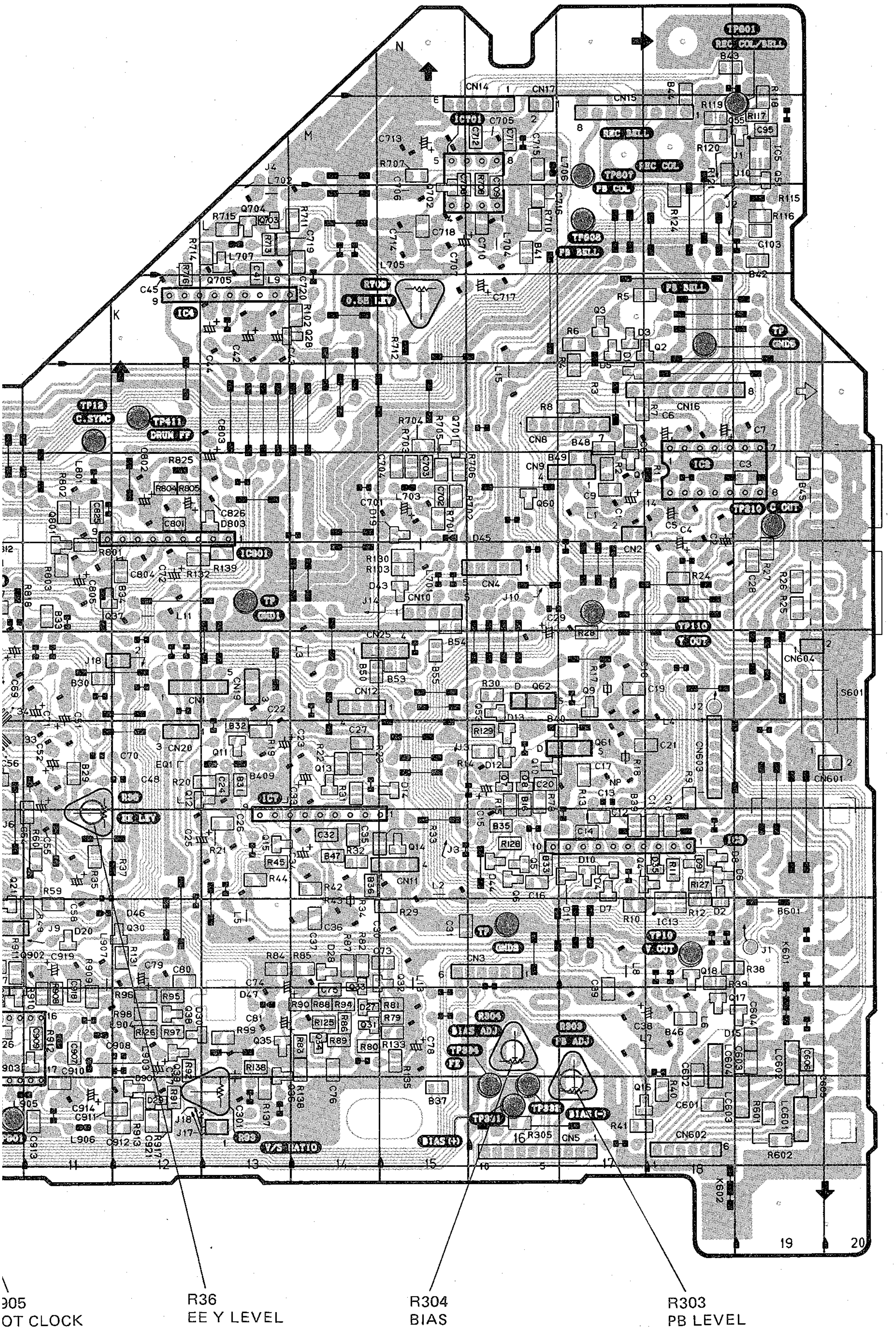
R64
S PB Y LEVEL

R302
EE LEVEL

R301
EE BALANCE

C916
BURST CLOCK

C905
DOT CLC

TP801 REC COL/BELL
REC BELL
REC COL
TP807 PB COL
TP808 PB BELL
PB BELL
R700 0.5H LEV
TP GND6
TP12 C.SYNC
TP411 DRUM FF
IC801
TP GND1
TP810 C OUT
TP110 Y OUT
R36 EE LEV
IC7
IC3
TP GND3
TP10 Y OUT
R304 BIAS ADJ
R303 PB ADJ
TP304 PR
TP301
TP302
BIAS (+)
BIAS (−)
R33 V/C RATIO
905
OT CLOCK
R36
EE Y LEVEL
R304
BIAS
R303
PB LEVEL

E F G H

- Address of chip parts

A-1
└── Address

| REF. No. | LOCATION |
|---|---|
| **IC** | |
| IC1 | F-9 |
| IC5 | M-19 |
| IC10 | C-2 |
| IC11 | B-2 |
| IC13 | D-18 |
| **TRANSISTOR** | |
| Q1 | I-17 |
| Q2 | K-18 |
| Q3 | K-17 |
| Q4 | E-17 |
| Q5 | E-16 |
| Q6 | E-16 |
| Q7 | F-16 |
| Q8 | F-16 |
| Q9 | G-17 |
| Q10 | F-16 |
| Q11 | F-13 |
| Q12 | F-12 |
| Q13 | F-14 |
| Q14 | E-15 |
| Q15 | E-13 |
| Q16 | B-17 |
| Q17 | C-18 |
| Q20 | H-10 |
| Q21 | E-10 |
| Q22 | E-9 |
| Q23 | D-9 |
| Q24 | E-4 |
| Q25 | G-9 |
| Q26 | E-5 |
| Q27 | G-4 |
| Q29 | E-7 |
| Q30 | D-12 |
| Q31 | C-14 |
| Q32 | C-15 |
| Q33 | C-14 |
| Q34 | C-14 |
| Q35 | C-13 |
| Q38 | C-12 |
| Q39 | C-12 |
| Q46 | B-2 |
| Q47 | D-4 |

| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q48 | C-4 |
| Q49 | C-3 |
| Q51 | L-19 |
| Q52 | F-8 |
| Q53 | G-15 |
| Q55 | M-19 |
| Q59 | B-2 |
| Q60 | I-16 |
| **DIODE** | |
| D1 | J-17 |
| D2 | D-18 |
| D3 | K-17 |
| D4 | E-17 |
| D5 | J-17 |
| D6 | E-18 |
| D7 | D-17 |
| D8 | E-18 |
| D9 | E-18 |
| D10 | E-17 |
| D11 | D-17 |
| D12 | F-16 |
| D13 | F-16 |
| D14 | F-15 |
| D15 | C-18 |
| D16 | D-5 |
| D17 | C-6 |
| D18 | D-5 |
| D19 | I-14 |
| D20 | D-11 |
| D21 | B-4 |
| D22 | D-4 |
| D25 | J-6 |
| D26 | J-6 |
| D27 | C-14 |
| D28 | D-14 |
| D29 | B-12 |
| D30 | C-12 |
| D33 | B-2 |
| D34 | G-9 |
| D35 | E-18 |
| D36 | D-4 |
| D37 | C-3 |

| REF. No. | LOCATION |
|---|---|
| **DIODE** | |
| D38 | C-4 |
| D39 | D-5 |
| D40 | F-6 |
| D41 | E-5 |
| D43 | H-15 |
| D44 | D-1 |
| **RESISTOR** | |
| R2 | I-17 |
| R4 | J-17 |
| R5 | K-17 |
| R6 | K-17 |
| R7 | J-18 |
| R8 | J-16 |
| R9 | F-18 |
| R10 | D-17 |
| R11 | E-18 |
| R12 | D-18 |
| R13 | F-17 |
| R14 | F-15 |
| R15 | F-15 |
| R16 | F-15 |
| R20 | F-12 |
| R21 | E-13 |
| R22 | F-14 |
| R23 | F-14 |
| R24 | H-18 |
| R25 | H-19 |
| R26 | H-19 |
| R27 | H-19 |
| R28 | G-18 |
| R29 | D-15 |
| R30 | G-15 |
| R31 | F-14 |
| R32 | E-14 |
| R33 | E-15 |
| R35 | E-11 |
| R38 | D-19 |
| R39 | C-18 |
| R40 | B-18 |
| R41 | B-17 |
| R42 | E-14 |
| R43 | D-14 |

| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R44 | E-13 |
| R45 | E-13 |
| R46 | I-6 |
| R47 | H-10 |
| R49 | D-11 |
| R50 | D-10 |
| R51 | E-10 |
| R52 | D-10 |
| R53 | D-9 |
| R54 | E-9 |
| R55 | D-9 |
| R56 | E-8 |
| R57 | F-8 |
| R59 | E-11 |
| R60 | E-11 |
| R61 | E-8 |
| R62 | C-3 |
| R65 | B-4 |
| R66 | B-3 |
| R67 | E-7 |
| R68 | E-7 |
| R70 | F-8 |
| R71 | D-6 |
| R72 | G-8 |
| R73 | D-5 |
| R74 | E-5 |
| R75 | G-10 |
| R76 | D-4 |
| R77 | D-4 |
| R78 | F-15 |
| R79 | C-15 |
| R80 | C-14 |
| R81 | C-15 |
| R82 | D-14 |
| R83 | C-14 |
| R84 | D-13 |
| R85 | D-14 |
| R86 | C-14 |
| R87 | D-14 |
| R88 | C-14 |
| R89 | C-14 |
| R90 | C-14 |
| R91 | B-12 |
| R92 | B-12 |

| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R95 | C-12 |
| R96 | C-12 |
| R97 | C-12 |
| R98 | C-12 |
| R99 | C-13 |
| R103 | H-15 |
| R104 | D-5 |
| R105 | E-5 |
| R106 | F-4 |
| R107 | F-4 |
| R108 | B-2 |
| R109 | C- 2 |
| R110 | B-2 |
| R111 | E-3 |
| R112 | C-4 |
| R113 | D-4 |
| R114 | D-4 |
| R116 | L-19 |
| R117 | M-19 |
| R119 | M-18 |
| R120 | M-18 |
| R121 | M-18 |
| R122 | F-8 |
| R123 | B-2 |
| R124 | L-18 |
| R125 | C-14 |
| R127 | E-18 |
| R128 | E-15 |
| R129 | F-15 |
| R130 | H-15 |
| R131 | D-12 |
| R132 | H-12 |
| R133 | C-15 |
| R134 | E-8 |
| R135 | C-15 |
| R140 | C-6 |
| **CAPACITOR** | |
| C3 | I-19 |
| C9 | I-17 |
| C10 | E-18 |
| C11 | E-18 |
| C12 | E-17 |

| REF. N |
|---|
| **CA** |
| C14 |
| C16 |
| C19 |
| C21 |
| C22 |
| C24 |
| C27 |
| C28 |
| C32 |
| C35 |
| C37 |
| C39 |
| C41 |
| C46 |
| C47 |
| C50 |
| C54 |
| C56 |
| C60 |
| C65 |
| C66 |
| C76 |
| C80 |
| C89 |
| C90 |
| C91 |
| C94 |
| C95 |
| C98 |
| C99 |
| C103 |
| C105 |

- TERMINAL SECTION -

| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R601 | B-19 |
| R602 | B-19 |
| **CAPACITOR** | |
| C601 | B-18 |
| C602 | B-18 |

- ON SCREEN SECTION -

| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q901 | C-10 |
| Q902 | C-10 |
| **DIODE** | |
| D901 | B-12 |
| **RESISTOR** | |
| R901 | D-9 |
| R902 | D-9 |
| R903 | C-9 |
| R904 | C-9 |
| R905 | C-10 |

| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R906 | C-10 |
| R907 | D-10 |
| R908 | C-11 |
| R909 | D-11 |
| R910 | C-11 |
| R911 | D-10 |
| R913 | B-12 |
| R914 | B-10 |
| R915 | B-9 |
| R916 | B-9 |
| R917 | B-12 |
| R918 | C-8 |
| R920 | D-6 |
| R921 | D-8 |

| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R922 | D-8 |
| R923 | D-6 |
| **CAPACITOR** | |
| C904 | C-9 |
| C906 | C-10 |
| C907 | C-11 |
| C909 | C-11 |
| C910 | C-11 |
| C911 | B-11 |
| C912 | B-12 |
| C915 | C-9 |
| C917 | B-9 |

| REF. No. | LOCATION |
|---|---|
| **CAPACITOR** | |
| C918 | C-11 |
| C921 | B-12 |
| C922 | C-7 |
| C924 | D-7 |
| C925 | D-8 |
| C928 | D-8 |

| REF. No. | LOCATION |
|---|---|
| **CAPACITOR** | |
| C14 | E-17 |
| C16 | E-15 |
| C19 | G-18 |
| C21 | F-18 |
| C22 | G-13 |
| C24 | F-13 |
| C27 | F-14 |
| C28 | H-19 |
| C32 | C-14 |
| C35 | E-14 |
| C37 | D-14 |
| C39 | C-17 |
| C41 | K-13 |
| C46 | H-9 |
| C47 | E-10 |
| C50 | D-9 |
| C54 | E-11 |
| C56 | F-10 |
| C60 | F-9 |
| C65 | G-9 |
| C66 | G-8 |
| C76 | B-14 |
| C80 | D-12 |
| C89 | F-4 |
| C90 | F-5 |
| C91 | F-5 |
| C94 | C-3 |
| C95 | M-19 |
| C98 | C-1 |
| C99 | C-2 |
| C103 | L-19 |
| C105 | F-8 |

- Y/C SEPARATOR SECTION -

| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q201 | F-3 |
| Q202 | D-1 |
| Q203 | D-2 |
| Q204 | C-2 |
| Q205 | D-1 |
| Q206 | H-3 |
| Q207 | G-4 |
| Q208 | F-2 |
| Q209 | G-3 |
| **RESISTOR** | |
| R202 | E-3 |
| R203 | F-3 |
| R204 | E-1 |
| R205 | E-1 |
| R207 | D-1 |
| R208 | D-2 |
| R209 | D-2 |
| R210 | D-1 |
| R211 | C-2 |
| R212 | D-2 |
| R216 | G-1 |
| R217 | G-1 |
| R220 | F-1 |
| R222 | G-3 |
| R223 | H-3 |
| R224 | H-4 |
| R225 | F-2 |
| R226 | E-2 |
| R227 | E-1 |
| R228 | E-2 |
| R230 | G-3 |
| R232 | F-2 |
| R233 | G-2 |
| R235 | G-3 |
| R236 | J-6 |
| R237 | J-5 |
| R239 | J-5 |
| R244 | H-3 |
| R245 | G-3 |
| R246 | H-4 |

| REF. No. | LOCATION |
|---|---|
| **CAPACITOR** | |
| C201 | E-3 |
| C203 | E-3 |
| C205 | C-1 |
| C206 | D-1 |
| C207 | H-1 |
| C208 | G-1 |
| C209 | H-2 |
| C210 | H-2 |
| C211 | H-2 |
| C212 | H-2 |
| C213 | H-2 |
| C215 | F-2 |
| C216 | G-3 |
| C217 | G-3 |
| C219 | H-2 |
| C223 | J-4 |
| C224 | I-2 |
| C225 | I-3 |
| C226 | H-3 |
| C227 | J-2 |
| C228 | H-3 |
| C229 | H-3 |

- SECAM SWITCH SECTION -

| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q801 | I-11 |
| Q802 | H-10 |
| Q803 | C-3 |
| Q804 | H-8 |
| Q805 | I-9 |
| Q806 | I-9 |
| Q807 | I-8 |
| Q808 | G-9 |
| Q809 | G-8 |
| Q810 | G-5 |
| Q811 | G-5 |
| **DIODE** | |
| D801 | G-5 |
| D802 | E-5 |
| D803 | I-13 |
| **RESISTOR** | |
| R801 | H-11 |
| R802 | I-11 |
| R803 | H-11 |
| R804 | I-12 |
| R805 | I-12 |
| R806 | H-8 |
| R807 | I-8 |
| R808 | I-9 |
| R809 | I-9 |
| R810 | I-9 |
| R811 | I-9 |
| R812 | I-8 |
| R813 | I-8 |
| R815 | H-9 |
| R816 | H-9 |
| R817 | J-7 |
| R819 | I-8 |
| R820 | G-4 |
| R821 | G-4 |
| R823 | F-4 |

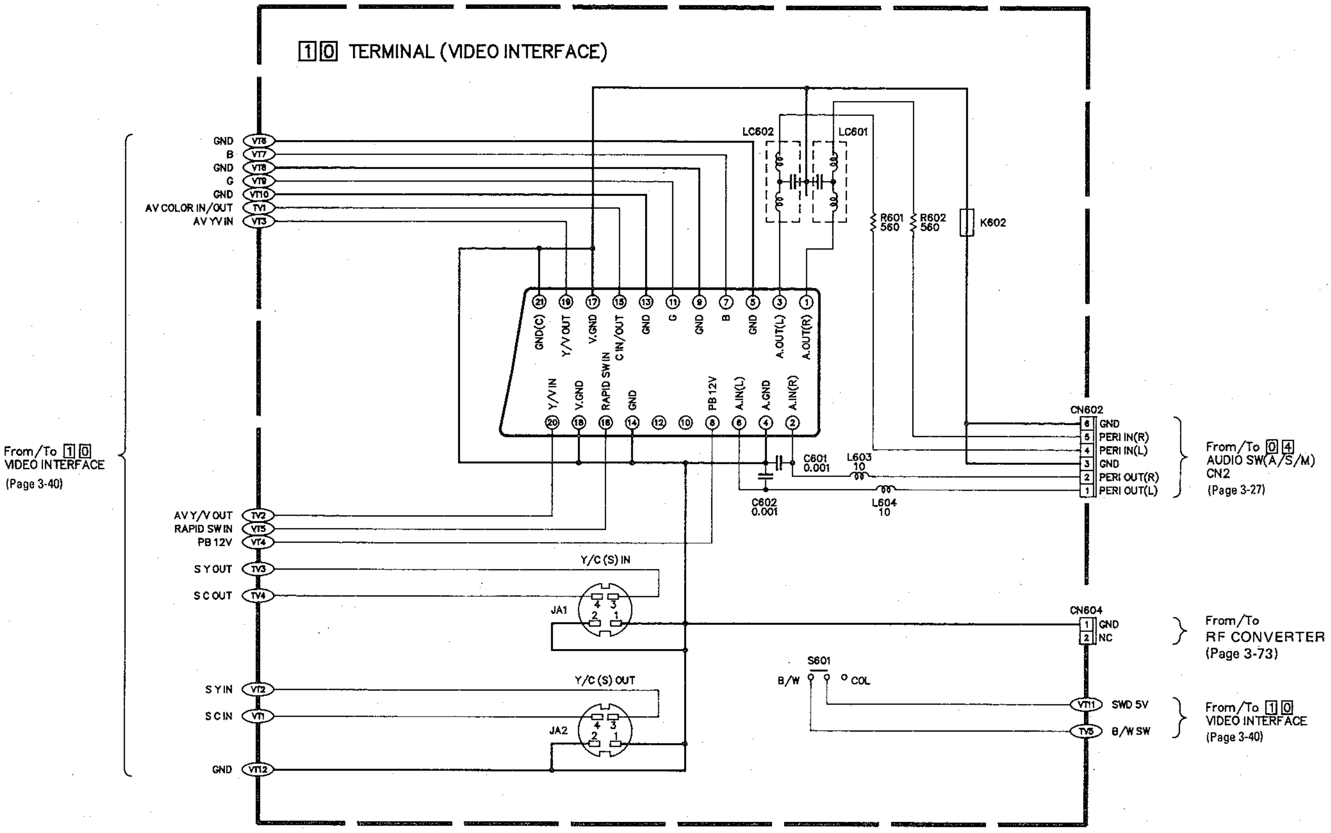
| REF. No. | LOCATION |
|---|---|
| **CAPACITOR** | |
| C801 | I-12 |
| C807 | H-9 |
| C809 | I-8 |
| C811 | I-8 |
| C813 | H-9 |
| C814 | G-9 |
| C815 | H-4 |
| C819 | G-4 |
| C820 | G-4 |
| C821 | G-5 |
| C824 | G-4 |
| C825 | I-11 |
| C827 | F-4 |
| C828 | G-4 |

ON

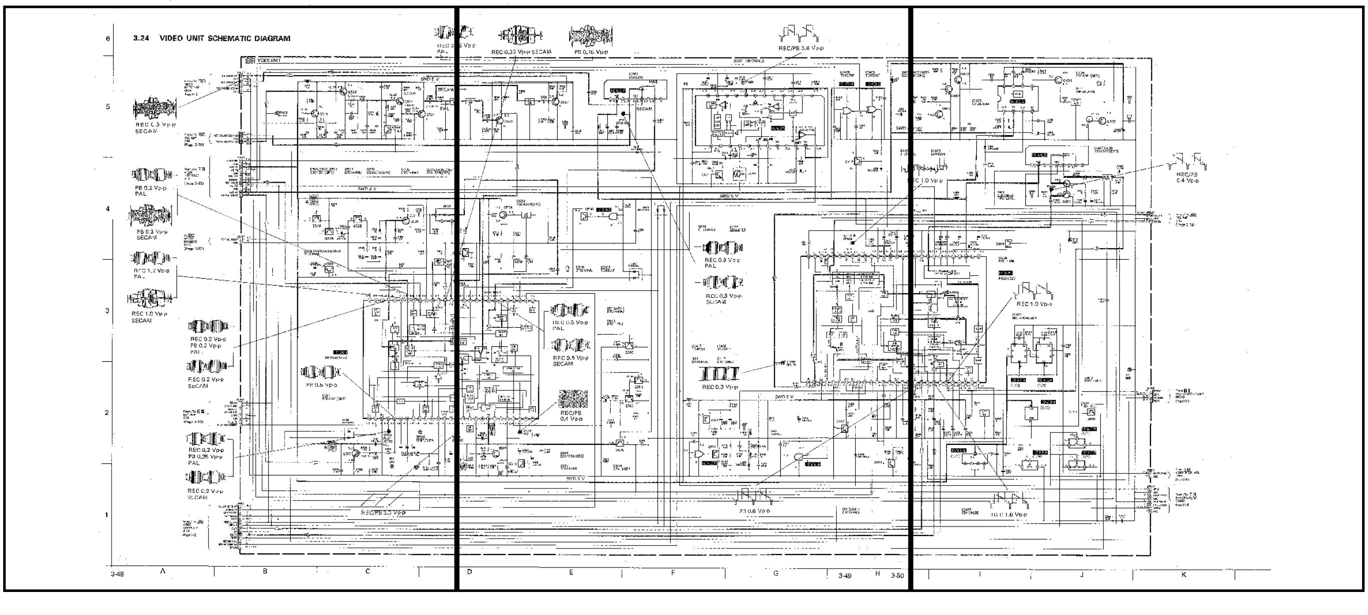
- OTHER SECTION -

| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R305 | B-16 |

## 3.23 TERMINAL SCHEMATIC DIAGRAM


1 0 TERMINAL (VIDEO INTERFACE)
GND VT6
B VT7
GND VT8
G VT9
GND VT10
AV COLOR IN/OUT TV1
AV Y/V IN VT3
From/To 1 0 VIDEO INTERFACE (Page 3-40)
LC602
LC601
R601 560
R602 560
K602
21 GND(C)
19 Y/V OUT
17 V.GND
15 C IN/OUT
13 GND
11 G
9 GND
7 B
5 GND
3 A.OUT(L)
1 A.OUT(R)
20 Y/V IN
18 V.GND
16 RAPID SW IN
14 GND
12
10
8 PB 12V
6 A.IN(L)
4 A.GND
2 A.IN(R)
C601 0.001
C602 0.001
L603 10
L604 10
CN602
6 GND
5 PERI IN(R)
4 PERI IN(L)
3 GND
2 PERI OUT(R)
1 PERI OUT(L)
From/To 0 4 AUDIO SW(A/S/M) CN2 (Page 3-27)
AV Y/V OUT TV2
RAPID SW IN VT5
PB 12V VT4
S Y OUT TV3
S C OUT TV4
Y/C (S) IN
JA1
4 3 2 1
CN604
1 GND
2 NC
From/To RF CONVERTER (Page 3-73)
S601
B/W
COL
S Y IN VT2
S C IN VT1
Y/C (S) OUT
JA2
4 3 2 1
GND VT12
VT11 SWD 5V
TV5 B/W SW
From/To 1 0 VIDEO INTERFACE (Page 3-40)

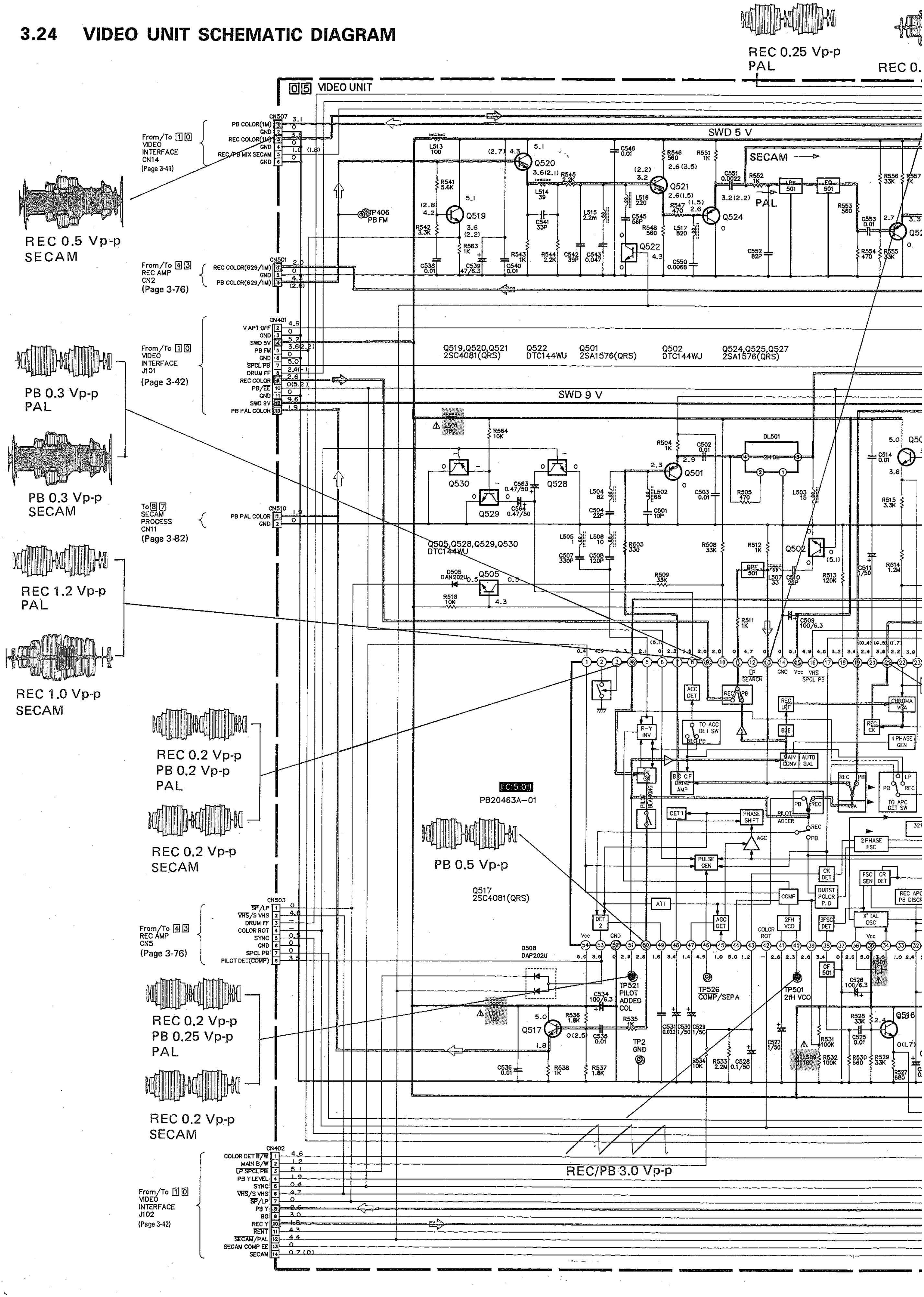
P3-48,49,50-a P3-48,49,50-b P3-48,49,50-c

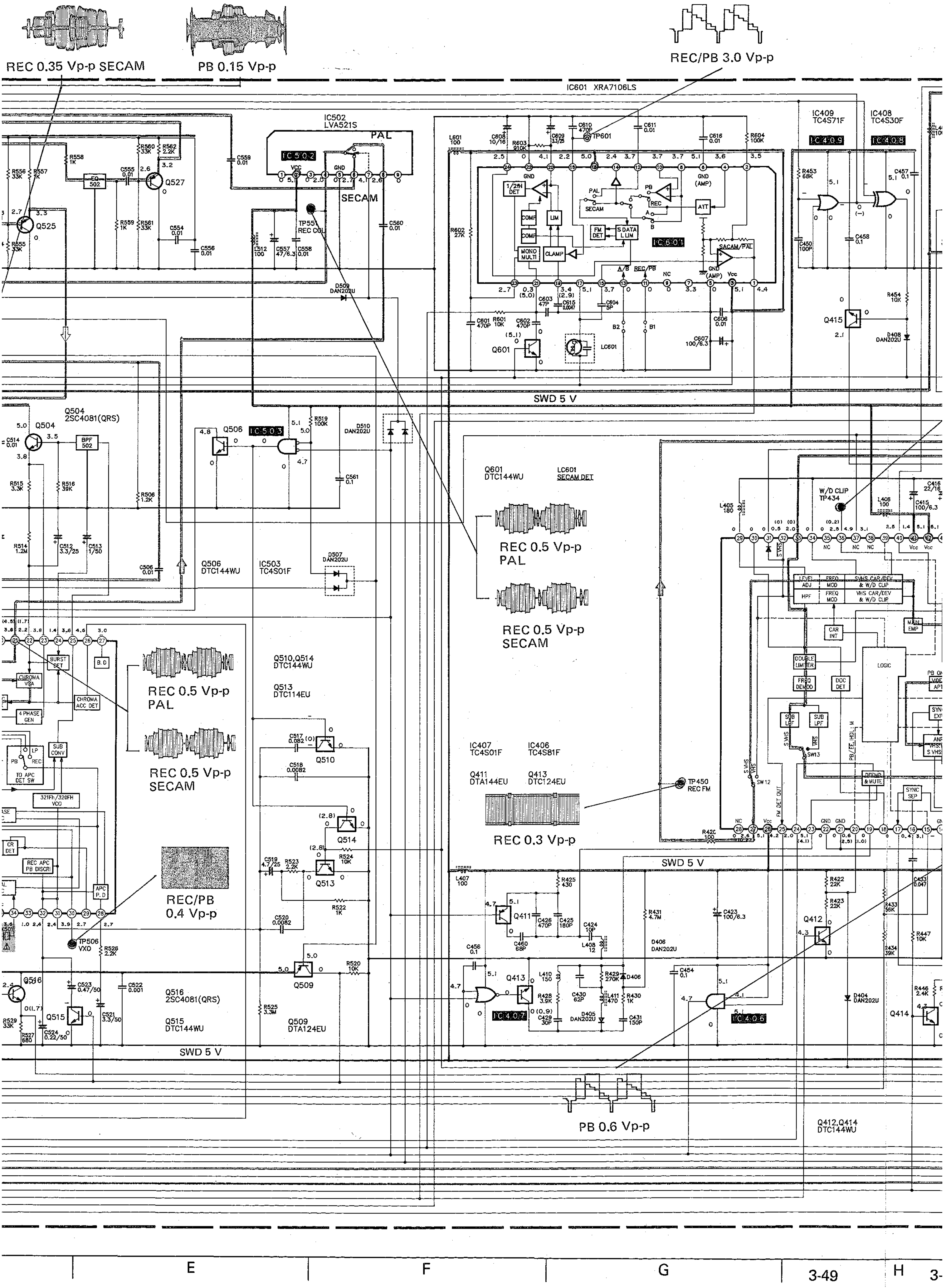


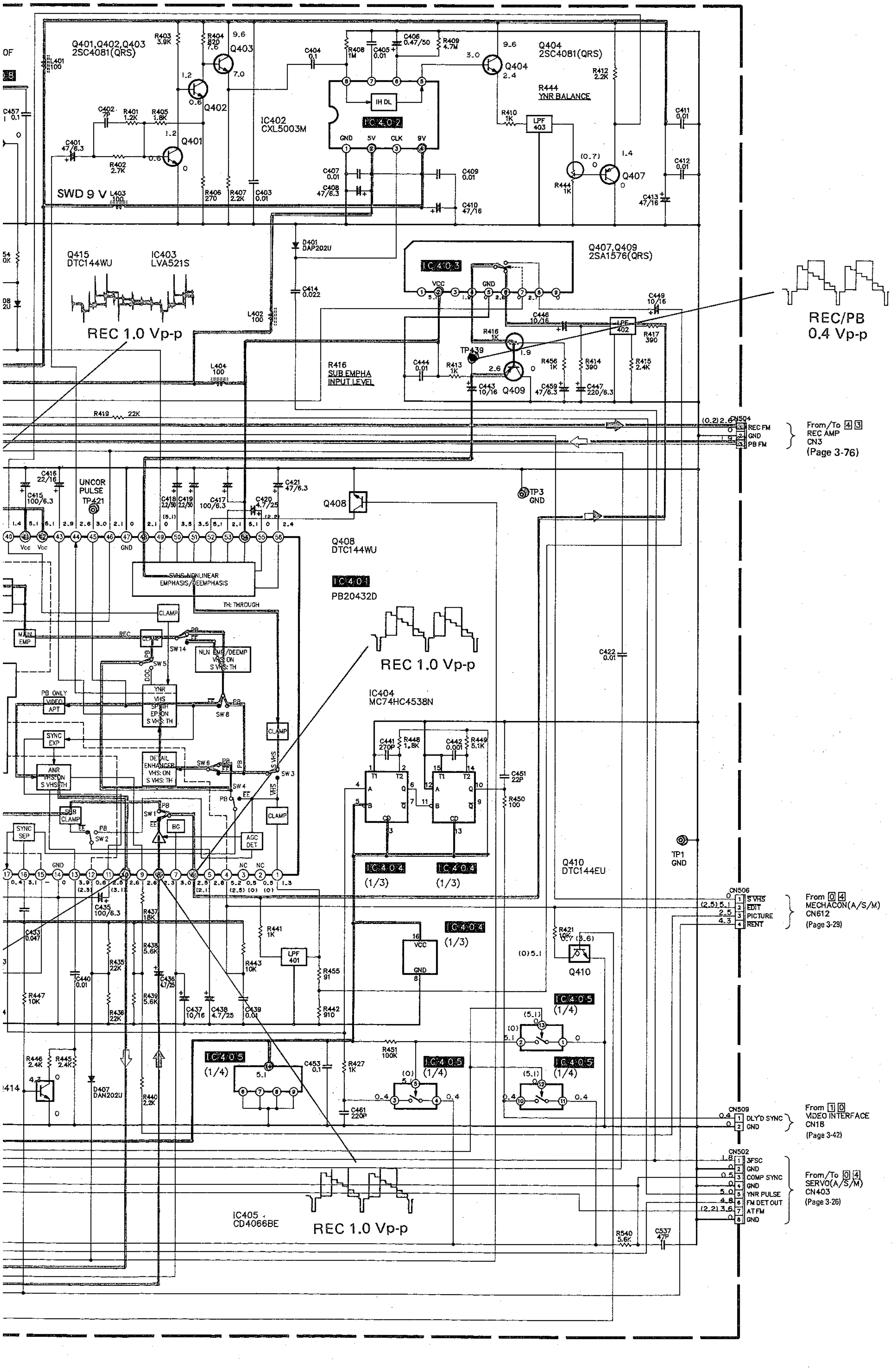
3.24 VIDEO UNIT SCHEMATIC DIAGRAM

REC 0.5 Vp-p SECAM
PB 0.3 Vp-p PAL
PB 0.3 Vp-p SECAM
REC 1.2 Vp-p PAL
REC 1.0 Vp-p SECAM
REC 0.2 Vp-p
PB 0.2 Vp-p PAL
REC 0.2 Vp-p SECAM
REC 0.2 Vp-p
PB 0.25 Vp-p PAL
REC 0.2 Vp-p SECAM
PB 0.5 Vp-p
REC 0.25 Vp-p SECAM
PB 0.15 Vp-p
REC/PB 3.0 Vp-p
REC 0.5 Vp-p PAL
REC 0.5 Vp-p SECAM
REC 0.5 Vp-p PAL
REC 0.5 Vp-p SECAM
REC/PB 0.4 Vp-p
REC 0.3 Vp-p
REC 1.0 Vp-p
REC/PB 0.4 Vp-p
REC 1.0 Vp-p
PB 0.6 Vp-p
REC/PB 0.7 Vp-p
6
5
4
3
2
1
3-48
A
B
C
D
E
F
G
3-49
H
3-50
I
J
K

## 3.24 VIDEO UNIT SCHEMATIC DIAGRAM

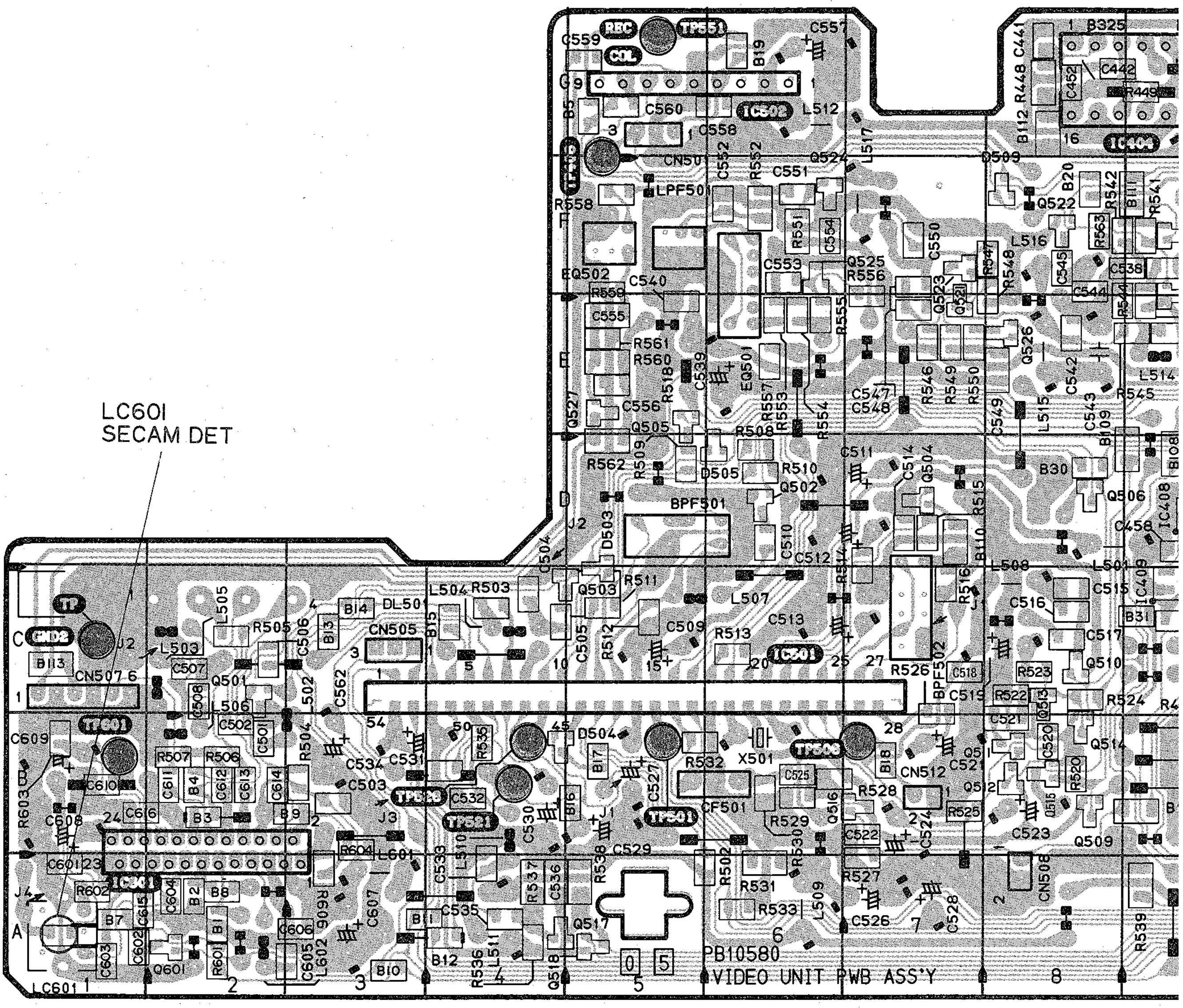

05 VIDEO UNIT
REC 0.25 Vp-p
PAL
REC 0.
REC 0.5 Vp-p
SECAM
From/To 10 VIDEO INTERFACE CN14 (Page 3-41)
CN507
PB COLOR(1M)
GND
REC COLOR(1M)
GND
REC/PB MIX SECAM
GND
From/To 43 REC AMP CN2 (Page 3-76)
CN501
REC COLOR(629/1M)
GND
PB COLOR(629/1M)
From/To 10 VIDEO INTERFACE J101 (Page 3-42)
CN401
V APT OFF
GND
SWD 5V
PB FM
GND
SPCL PB
DRUM FF
REC COLOR
PB/EE
GND
SWD 9V
PB PAL COLOR
PB 0.3 Vp-p
PAL
PB 0.3 Vp-p
SECAM
To 87 SECAM PROCESS CN11 (Page 3-82)
CN510
PB PAL COLOR
GND
REC 1.2 Vp-p
PAL
REC 1.0 Vp-p
SECAM
REC 0.2 Vp-p
PB 0.2 Vp-p
PAL
REC 0.2 Vp-p
SECAM
From/To 43 REC AMP CN5 (Page 3-76)
CN503
SP/LP
VHS/S VHS
DRUM FF
COLOR ROT
SYNC
GND
SPCL PB
PILOT DET(COMP)
REC 0.2 Vp-p
PB 0.25 Vp-p
PAL
REC 0.2 Vp-p
SECAM
From/To 10 VIDEO INTERFACE J102 (Page 3-42)
CN402
COLOR DET B/W
MAIN B/W
LP SPCL PB
PB Y LEVEL
SYNC
VHS/S VHS
SP/LP
PB Y
BG
REC Y
RENT
SECAM/PAL
SECAM COMP EE
SECAM
SWD 5 V
SECAM
PAL
TP406 PB FM
Q519
Q520
Q521
Q522
Q524
Q519,Q520,Q521 2SC4081(QRS)
Q522 DTC144WU
Q501 2SA1576(QRS)
Q502 DTC144WU
Q524,Q525,Q527 2SA1576(QRS)
SWD 9 V
Q530
Q528
Q529
Q501
Q502
DL501
Q505,Q528,Q529,Q530 DTC144WU
D505 DAN202U
Q505
IC501
PB20463A-01
PB 0.5 Vp-p
Q517 2SC4081(QRS)
D508 DAP202U
TP521 PILOT ADDED COL
TP526 COMP/SEPA
TP501 2fH VCO
TP2 GND
Q517
Q516
X501
CF501
REC/PB 3.0 Vp-p
ACC DET
R-Y INV
TO ACC DET SW
MAIN CONV
AUTO BAL
CHROMA VCA
4 PHASE GEN
PHASE SHIFT
AGC
PULSE GEN
ATT
COMP
2FH VCO
AGC DET
DET 2
DET 1
PILOT ADDER
TO APC DET SW
2 PHASE FSC
CK DET
BURST POLOR P.D
FSC GEN
CR DET
REC APC PB DISCR
X'TAL OSC
3FSC DET
LP SEARCH
VHS SPCL PB
Vcc
GND


REC 0.35 Vp-p SECAM
PB 0.15 Vp-p
REC/PB 3.0 Vp-p
IC601 XRA7106LS
IC502 LVA521S
PAL
SECAM
TP551 REC COL
TP601
IC409 TC4S71F
IC408 TC4S30F
Q525
Q527
EQ 502
Q504 2SC4081(QRS)
BPF 502
Q506
IC503
D510 DAN202U
D509 DAN202U
D507 DAN202U
SWD 5 V
Q601 DTC144WU
LC601 SECAM DET
REC 0.5 Vp-p PAL
REC 0.5 Vp-p SECAM
Q506 DTC144WU
IC503 TC4S01F
Q510,Q514 DTC144WU
Q513 DTC114EU
Q510
Q514
Q513
Q509
Q509 DTA124EU
Q516
Q515
Q516 2SC4081(QRS)
Q515 DTC144WU
REC/PB 0.4 Vp-p
TP506 VXO
BURST DET
B.D
CHROMA VCA
CHROMA ACC DET
4 PHASE GEN
SUB CONV
TO APC DET SW
321FH/320FH VCO
CR DET
REC APC PB DISCRI
APC P.D
IC407 TC4S01F
IC406 TC4S81F
Q411 DTA144EU
Q413 DTC124EU
TP450 REC FM
REC 0.3 Vp-p
W/D CLIP TP434
Q411
Q413
Q412
Q414
Q415
IC407
IC406
D406 DAN202U
D405 DAN202U
D404 DAN202U
D408 DAN202U
PB 0.6 Vp-p
Q412,Q414 DTC144WU
LEVEL ADJ
HPF
FREQ MOD
SVHS CAR/DEV & W/D CLIP
VHS CAR/DEV & W/D CLIP
CAR INT
MAIN EMP
DOUBLE LIMITER
FREQ DEMOD
DOC DET
LOGIC
SUB LPF
DEEMP & MUTE
SYNC SEP
SW12
SW13
FM DET OUT
E
F
G
H


Q401,Q402,Q403
2SC4081(QRS)
Q404
2SC4081(QRS)
R444
YNR BALANCE
IC402
CXL5003M
IH DL
GND 5V CLK 9V
LPF 403
SWD 9 V
Q407,Q409
2SA1576(QRS)
Q415
DTC144WU
IC403
LVA521S
REC 1.0 Vp-p
REC/PB
0.4 Vp-p
D401
DAP202U
R416
SUB EMPHA
INPUT LEVEL
TP439
LPF 402
CN504
REC FM
GND
PB FM
From/To 4 3
REC AMP
CN3
(Page 3-76)
UNCOR
PULSE
TP421
Q408
TP3
GND
Q408
DTC144WU
IC401
PB20432D
S-VHS NONLINEAR
EMPHASIS/DEEMPHASIS
TH: THROUGH
CLAMP
MAIN EMP
NLN EMP/DEEMP
VHS: ON
S-VHS: TH
YNR
VHS
SP: ON
EP: ON
S-VHS: TH
PB ONLY
VIDEO APT
SYNC EXP
ANR
VHS: ON
S-VHS: TH
DETAIL ENHANCER
VHS: ON
S-VHS: TH
SW14
SW5
SW8
SW6
SW4
SW3
SW1
SW2
SUB CLAMP
SYNC SEP
BG
AGC DET
REC 1.0 Vp-p
IC404
MC74HC4538N
IC404 (1/3)
TP1
GND
Q410
DTC144EU
CN506
S-VHS
EDIT
PICTURE
RENT
From 0 4
MECHACON(A/S/M)
CN612
(Page 3-29)
LPF 401
IC405 (1/4)
CN509
DLY'D SYNC
GND
From 1 0
VIDEO INTERFACE
CN18
(Page 3-42)
CN502
3FSC
GND
COMP SYNC
GND
YNR PULSE
FM DET OUT
AT FM
GND
From/To 0 4
SERVO(A/S/M)
CN403
(Page 3-26)
IC405
CD4066BE
REC 1.0 Vp-p
D407
DAN202U
Q414

P3-48,49,50-c

## 3.25 VIDEO UNIT CIRCUIT BOARD


LC601
SECAM DET
PB10580
VIDEO UNIT PWB ASS'Y
REC
COL
TP551
IC502
IC404
IC501
IC601
TP
GND2
TP601
TP528
TP521
TP501
TP508
CN501
CN505
CN507
CN512
CN508
LPF501
BPF501
BPF502
EQ501
EQ502
DL501
X501
CF501
J2
J3
J4
B325

◎ Address of chip parts

A-1
└ Address

| REF. No. | LOCATION |
|---|---|
| **IC** | |
| IC402 | F-14 |
| IC406 | C-11 |
| IC407 | C-11 |
| IC408 | D-9 |
| IC409 | C-9 |
| **TRANSISTOR** | |
| Q401 | G-15 |
| Q402 | F-14 |
| Q403 | F-15 |
| Q404 | G-12 |
| Q407 | F-11 |
| Q408 | D-16 |
| Q409 | F-16 |
| Q410 | A-16 |
| Q411 | C-12 |
| Q412 | A-15 |
| Q413 | B-12 |
| Q414 | C-14 |
| Q415 | E-10 |
| **DIODE** | |
| D401 | G-13 |
| D404 | B-13 |

| REF. No. | LOCATION |
|---|---|
| **DIODE** | |
| D405 | B-13 |
| D406 | C-13 |
| D407 | A-14 |
| D408 | E-10 |
| **RESISTOR** | |
| R401 | F-15 |
| R402 | F-15 |
| R403 | F-15 |
| R404 | F-15 |
| R405 | G-15 |
| R406 | G-14 |
| R407 | F-14 |
| R408 | F-14 |
| R409 | G-13 |
| R410 | G-12 |
| R412 | F-12 |
| R413 | G-16 |
| R414 | E-16 |
| R415 | D-16 |
| R417 | B-16 |
| R420 | E-12 |
| R421 | A-15 |
| R422 | A-15 |
| R423 | B-15 |

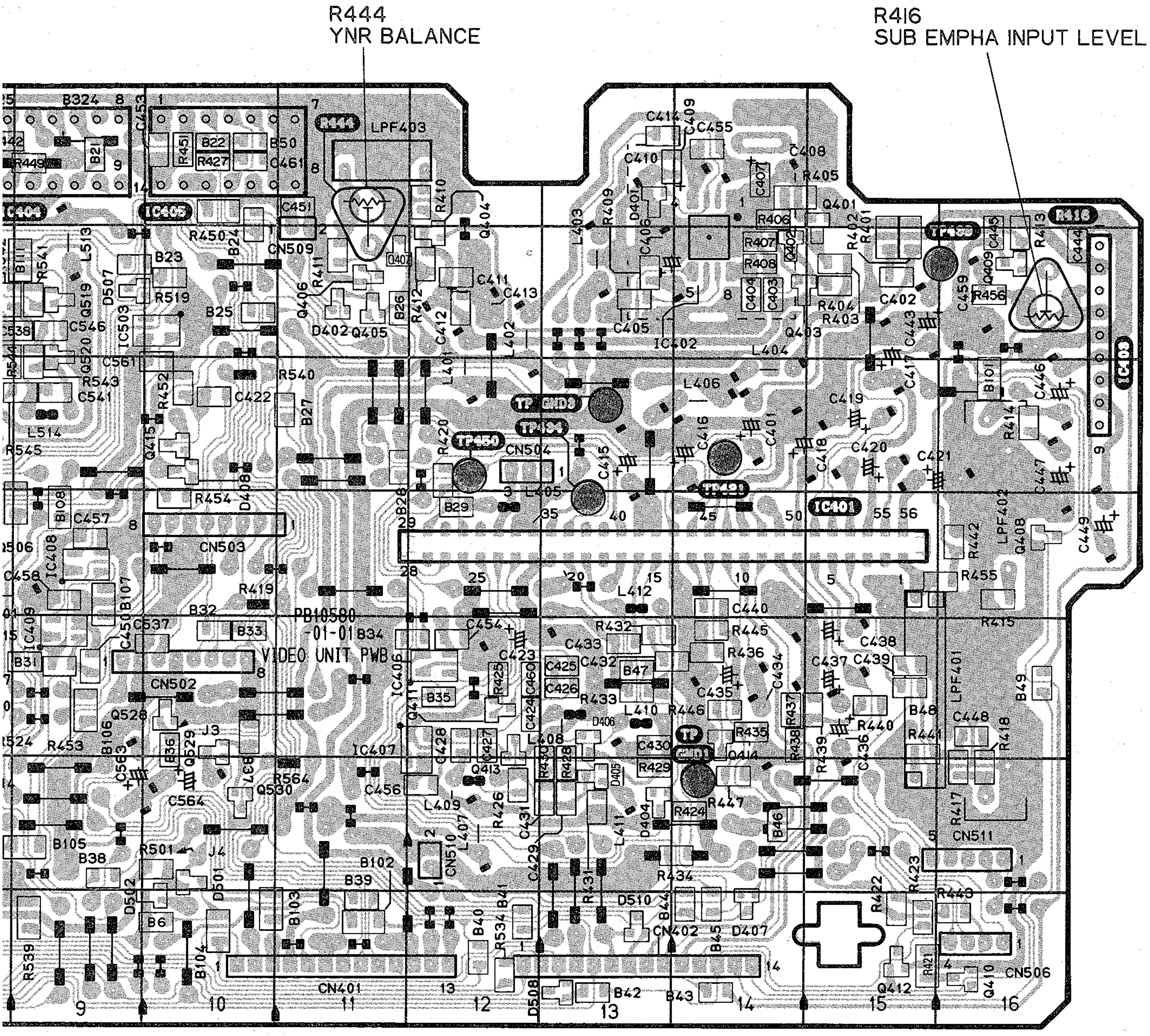
| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R425 | C-12 |
| R427 | G-10 |
| R428 | B-13 |
| R430 | B-13 |
| R431 | B-13 |
| R433 | C-13 |
| R434 | B-14 |
| R435 | C-14 |
| R436 | C-14 |
| R437 | C-14 |
| R438 | C-14 |
| R439 | C-15 |
| R440 | C-15 |
| R441 | C-15 |
| R442 | D-16 |
| R443 | B-16 |
| R445 | C-14 |
| R446 | C-14 |
| R447 | B-14 |
| R448 | G-8 |
| R449 | G-9 |
| R450 | F-10 |
| R451 | G-10 |
| R453 | C-9 |
| R454 | D-10 |
| R455 | D-16 |
| R456 | F-16 |

| REF. No. | LOCATION |
|---|---|
| **CAPACITOR** | |
| C402 | F-15 |
| C403 | F-14 |
| C404 | F-14 |
| C405 | F-13 |
| C407 | F-14 |
| C409 | G-14 |
| C411 | F-12 |
| C412 | F-12 |
| C414 | G-13 |
| C422 | E-10 |
| C424 | C-12 |
| C425 | C-13 |
| C426 | C-13 |
| C429 | B-12 |
| C430 | C-13 |
| C431 | B-12 |
| C433 | C-13 |
| C439 | C-15 |
| C440 | D-14 |
| C441 | G-8 |
| C442 | G-8 |
| C444 | F-16 |
| C450 | C-9 |
| C451 | G-11 |
| C452 | G-8 |
| C453 | G-9 |
| C454 | C-12 |

| REF. No. | LOCATION |
|---|---|
| **CAPACITOR** | |
| C456 | B-11 |
| C457 | D-9 |
| C458 | D-9 |
| C460 | C-12 |
| C461 | G-11 |

- COLOR SE

| REF. No. | L |
|---|---|
| **IC** | |
| IC503 | |
| **TRANSIST** | |
| Q501 | |
| Q502 | |
| Q504 | |
| Q505 | |
| Q506 | |
| Q509 | |
| Q510 | |
| Q513 | |
| Q514 | |
| Q515 | |
| Q516 | |
| Q517 | |
| Q519 | |
| Q520 | |
| Q521 | |
| Q522 | |
| Q524 | |
| Q525 | |
| Q527 | |
| Q528 | |
| Q529 | |
| Q530 | |


R444
YNR BALANCE
R416
SUB EMPHA INPUT LEVEL
PB10580
-01-01
VIDEO UNIT PWB
IC401
IC402
IC403
IC405
IC406
IC407
IC408
IC409
IC503
CN401
CN402
CN502
CN503
CN504
CN506
CN509
CN510
CN511
LPF401
LPF402
LPF403
TP450
TP491
TP494
TP GND1
TP GND3
9
10
11
12
13
14
15
16

OR SECTION-

| No. | LOCATION |
|---|---|
| **IC** | |
| 503 | F-9 |
| **RANSISTOR** | |
| 01 | C-2 |
| 02 | D-6 |
| 04 | D-7 |
| 05 | E-5 |
| 06 | D-8 |
| 09 | B-8 |
| 10 | C-8 |
| 13 | C-8 |
| 14 | B-8 |
| 15 | B-8 |
| 16 | B-6 |
| 17 | A-5 |
| 19 | F-9 |
| 20 | F-9 |
| 21 | E-7 |
| 22 | F-8 |
| 24 | F-6 |
| 25 | F-7 |
| 27 | E-5 |
| 28 | C-9 |
| 29 | C-10 |
| 30 | B-10 |

| REF. No. | LOCATION |
|---|---|
| **DIODE** | |
| D505 | D-6 |
| D507 | F-9 |
| D508 | A-13 |
| D509 | G-8 |
| D510 | A-13 |
| **RESISTOR** | |
| R503 | C-4 |
| R504 | B-3 |
| R505 | C-2 |
| R506 | B-2 |
| R508 | E-6 |
| R509 | D-5 |
| R511 | C-5 |
| R512 | C-5 |
| R513 | C-6 |
| R514 | D-7 |
| R515 | D-7 |
| R516 | C-7 |
| R519 | F-10 |
| R520 | B-8 |
| R522 | C-8 |
| R523 | C-8 |
| R524 | C-8 |
| R525 | B-7 |
| R526 | C-7 |

| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R527 | A-7 |
| R528 | B-7 |
| R529 | B-6 |
| R530 | B-6 |
| R531 | A-6 |
| R532 | B-6 |
| R533 | A-6 |
| R534 | A-12 |
| R535 | B-4 |
| R536 | A-4 |
| R537 | A-4 |
| R538 | A-5 |
| R541 | F-9 |
| R542 | F-8 |
| R543 | E-9 |
| R544 | E-9 |
| R545 | E-9 |
| R546 | E-7 |
| R547 | F-8 |
| R548 | F-8 |
| R551 | F-6 |
| R552 | F-6 |
| R553 | E-6 |
| R554 | E-6 |
| R555 | E-6 |
| R556 | F-7 |
| R557 | E-6 |

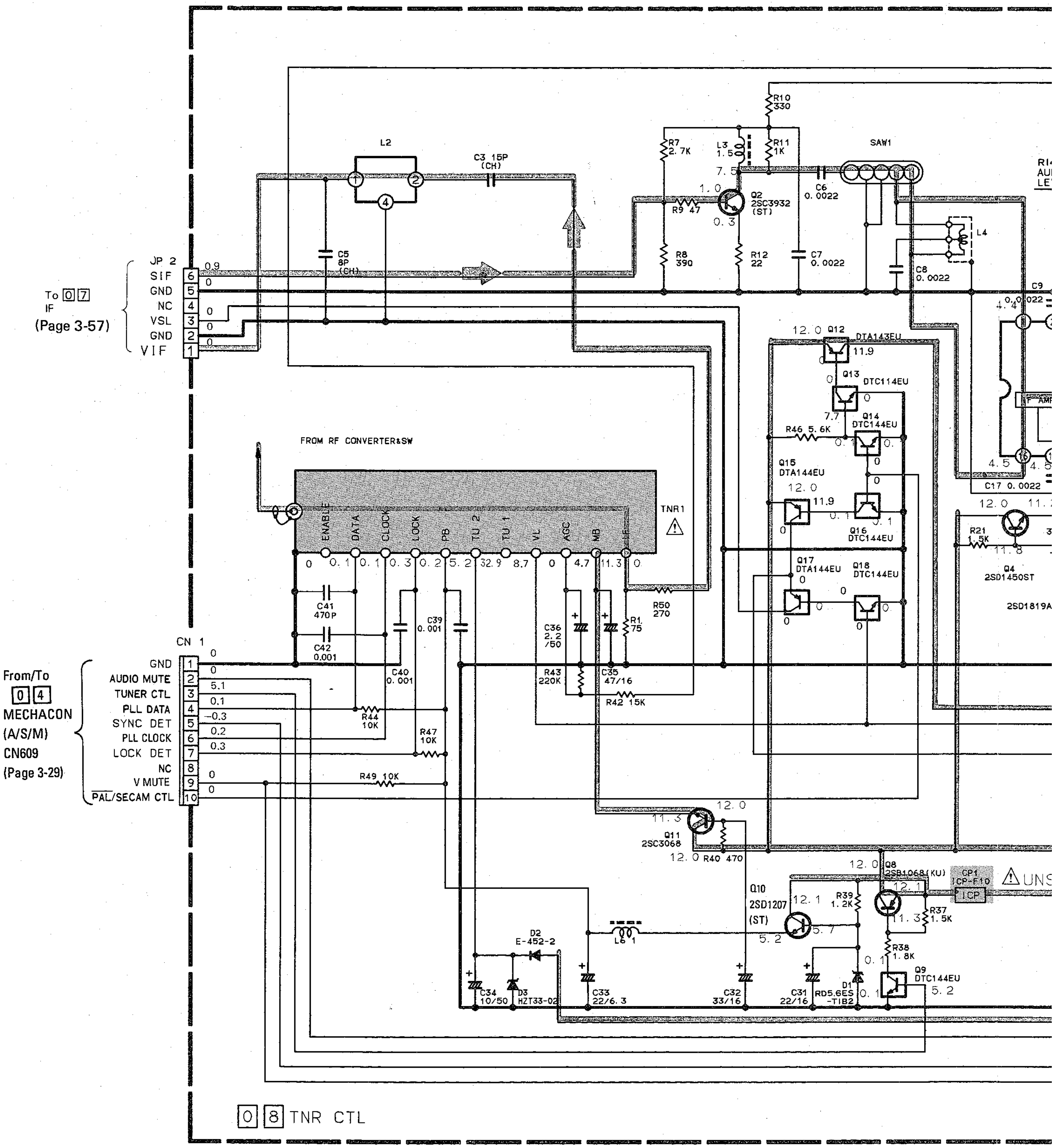
| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R558 | F-5 |
| R559 | F-5 |
| R560 | E-5 |
| R561 | E-5 |
| R562 | D-5 |
| R563 | F-8 |
| **CAPACITOR** | |
| C501 | B-2 |
| C502 | B-2 |
| C503 | B-3 |
| C504 | C-4 |
| C506 | C-3 |
| C507 | C-2 |
| C508 | C-2 |
| C510 | D-6 |
| C514 | D-7 |
| C517 | C-8 |
| C518 | C-7 |
| C520 | B-8 |
| C521 | B-8 |
| C522 | B-7 |
| C525 | B-6 |
| C531 | B-3 |
| C535 | A-4 |
| C536 | A-4 |

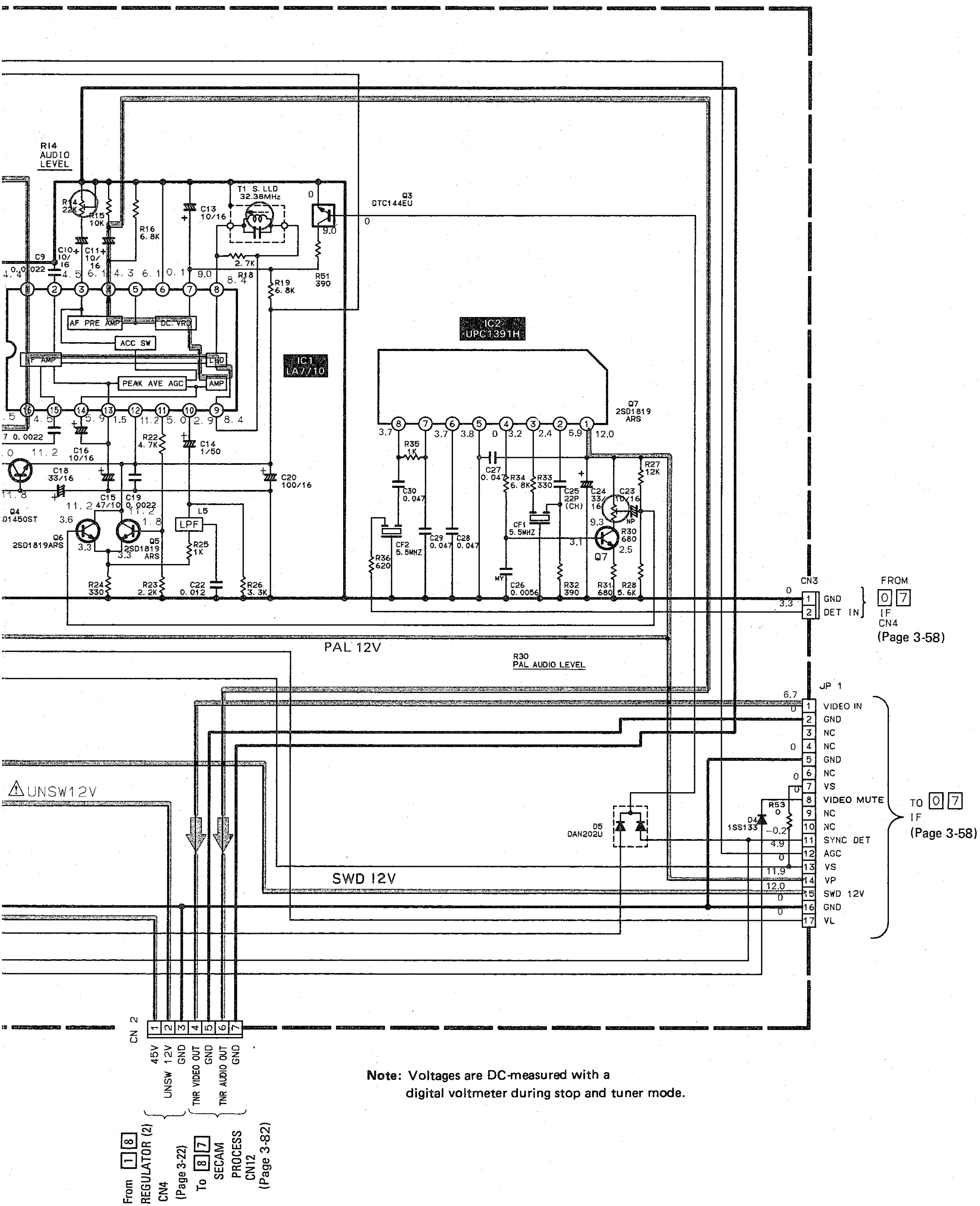
| REF. No. | LOCATION |
|---|---|
| **CAPACITOR** | |
| C537 | C-10 |
| C538 | F-9 |
| C540 | F-5 |
| C541 | E-9 |
| C542 | E-8 |
| C545 | F-8 |
| C546 | F-9 |
| C550 | F-7 |
| C551 | F-6 |
| C552 | F-6 |
| C553 | F-6 |
| C554 | F-6 |
| C555 | E-5 |
| C556 | E-5 |
| C558 | G-6 |
| C559 | G-5 |
| C560 | G-5 |
| C561 | E-9 |

- SECAM DETECTOR SECTION -

| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q601 | A-2 |
| **RESISTOR** | |
| R601 | A-2 |
| R602 | A-1 |
| R603 | B-1 |
| R604 | B-3 |
| **CAPACITOR** | |
| C601 | A-1 |
| C602 | A-1 |
| C603 | A-1 |
| C604 | A-2 |
| C606 | A-3 |
| C610 | B-1 |
| C611 | B-2 |
| C615 | A-1 |
| C616 | B-1 |

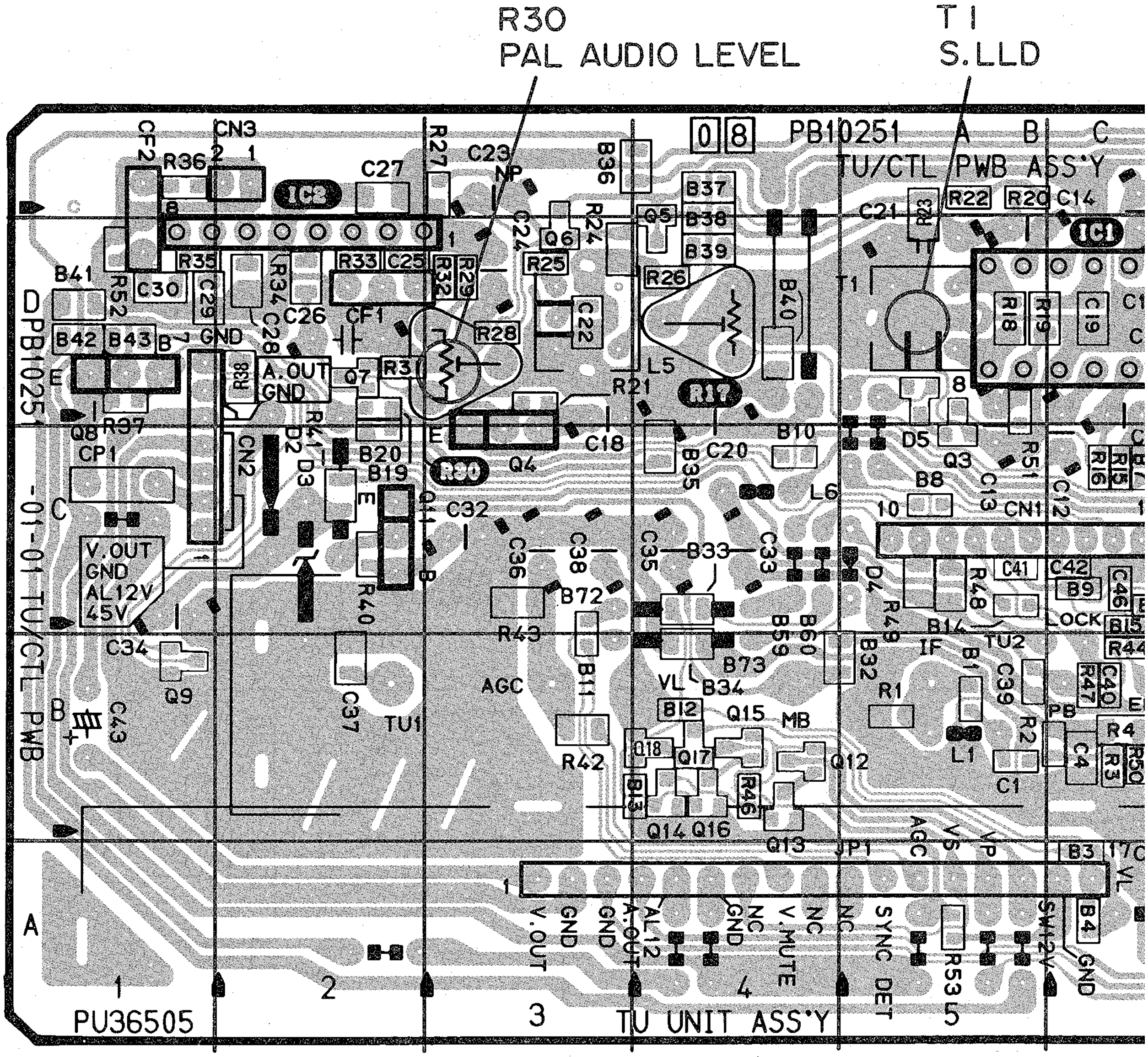
## 3.26 TUNER CTL SCHEMATIC DIAGRAM

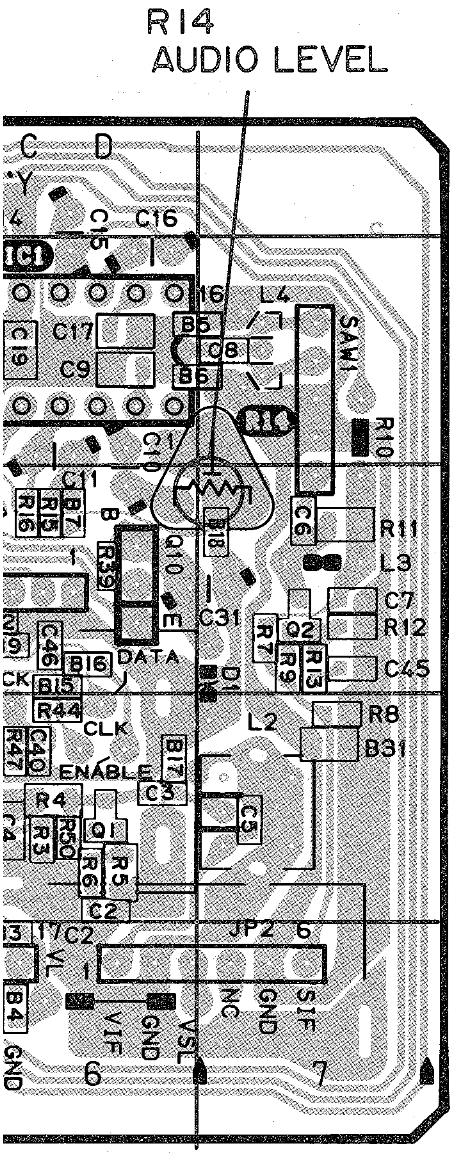

To 0 7 IF (Page 3-57)
JP 2
SIF 6 0.9
GND 5 0
NC 4 0
VSL 3 0
GND 2 0
VIF 1 0
L2
C3 15P (CH)
C5 8P (CH)
R10 330
R7 2.7K
L3 1.5
R11 1K
Q2 2SC3932 (ST)
R9 47
R8 390
R12 22
C6 0.0022
C7 0.0022
SAW1
L4
C8 0.0022
C9
Q12 DTA143EU
Q13 DTC114EU
Q14 DTC144EU
R46 5.6K
Q15 DTA144EU
Q16 DTC144EU
Q17 DTA144EU
Q18 DTC144EU
C17 0.0022
R21 1.5K
Q4 2SD1450ST
2SD1819A
FROM RF CONVERTER&SW
TNR1
ENABLE
DATA
CLOCK
LOCK
PB
TU 2
TU 1
VL
AGC
MB
IF
C41 470P
C42 0.001
C39 0.001
C40 0.001
C36 2.2 /50
C35 47/16
R43 220K
R1 75
R42 15K
R50 270
CN 1
From/To 0 4 MECHACON (A/S/M) CN609 (Page 3-29)
GND 1 0
AUDIO MUTE 2 0
TUNER CTL 3 5.1
PLL DATA 4 0.1
SYNC DET 5 -0.3
PLL CLOCK 6 0.2
LOCK DET 7 0.3
NC 8
V MUTE 9 0
PAL/SECAM CTL 10 0
R44 10K
R47 10K
R49 10K
Q11 2SC3068
R40 470
Q8 2SB1068(KU)
CP1 ICP-F10
ICP
UNS
Q10 2SD1207 (ST)
R39 1.2K
R37 1.5K
R38 1.8K
Q9 DTC144EU
D1 RD5.6ES -TIB2
D2 E-452-2
D3 HZT33-02
L6 1
C34 10/50
C33 22/6.3
C32 33/16
C31 22/16
0 8 TNR CTL


R14 AUDIO LEVEL
R14 22K
R15 10K
R16 6.8K
C9 0.0022
C10 10/16
C11 10/16
C13 10/16
T1 S.LLD 32.38MHz
Q3 DTC144EU
R18 2.7K
R19 6.8K
R51 390
AF PRE AMP
DC. VRO
ACC SW
IF AMP
LHD
PEAK AVE AGC
AMP
IC1 LA7710
IC2 UPC1391H
Q7 2SD1819 ARS
C16 10/16
C18 33/16
C15 47/10
C19 0.0022
C14 1/50
C20 100/16
R22 4.7K
Q4 2SD1450ST
Q6 2SD1819ARS
Q5 2SD1819 ARS
L5
LPF
R25 1K
R24 330
R23 2.2K
C22 0.012
R26 3.3K
R35 1K
C30 0.047
C29 0.047
C28 0.047
C27 0.047
R34 6.8K
R33 330
C25 22P (CH)
C24 33/16
C23 10/16 NP
R27 12K
R30 680
CF1 5.5MHZ
CF2 5.5MHZ
R36 620
C26 0.0056
R32 390
R31 680
R28 5.6K
CN3
1 GND
2 DET IN
FROM 0 7 IF CN4 (Page 3-58)
PAL 12V
R30 PAL AUDIO LEVEL
JP 1
1 VIDEO IN
2 GND
3 NC
4 NC
5 GND
6 NC
7 VS
8 VIDEO MUTE
9 NC
10 NC
11 SYNC DET
12 AGC
13 VS
14 VP
15 SWD 12V
16 GND
17 VL
TO 0 7 IF (Page 3-58)
D5 DAN202U
D4 1SS133
R53 0
UNSW12V
SWD 12V
CN 2
1 45V
2 UNSW 12V
3 GND
4 TNR VIDEO OUT
5 GND
6 TNR AUDIO OUT
7 GND
From 1 8 REGULATOR (2) CN4 (Page 3-22)
To 8 7 SECAM PROCESS CN12 (Page 3-82)

**Note:** Voltages are DC-measured with a digital voltmeter during stop and tuner mode.

## 3.27 TUNER CTL CIRCUIT BOARD


R30
PAL AUDIO LEVEL
T1
S.LLD
08
PB10251
TU/CTL PWB ASS'Y
DPB10251-01-01 TU/CTL PWB
PU36505
TU UNIT ASS'Y
IC1
IC2
CN1
CN2
CN3
CF1
CF2
CP1
TU1
TU2
L1
L5
L6
JP1
V.OUT
GND
AL12V
45V
A.OUT
AGC
VL
MB
IF
PB
LOCK
V.OUT
GND
GND
A.OUT
AL12
GND
NC
V.MUTE
NC
NC
SYNC DET
SW12V
GND
AGC
VS
VP
VL
1
2
3
4
5

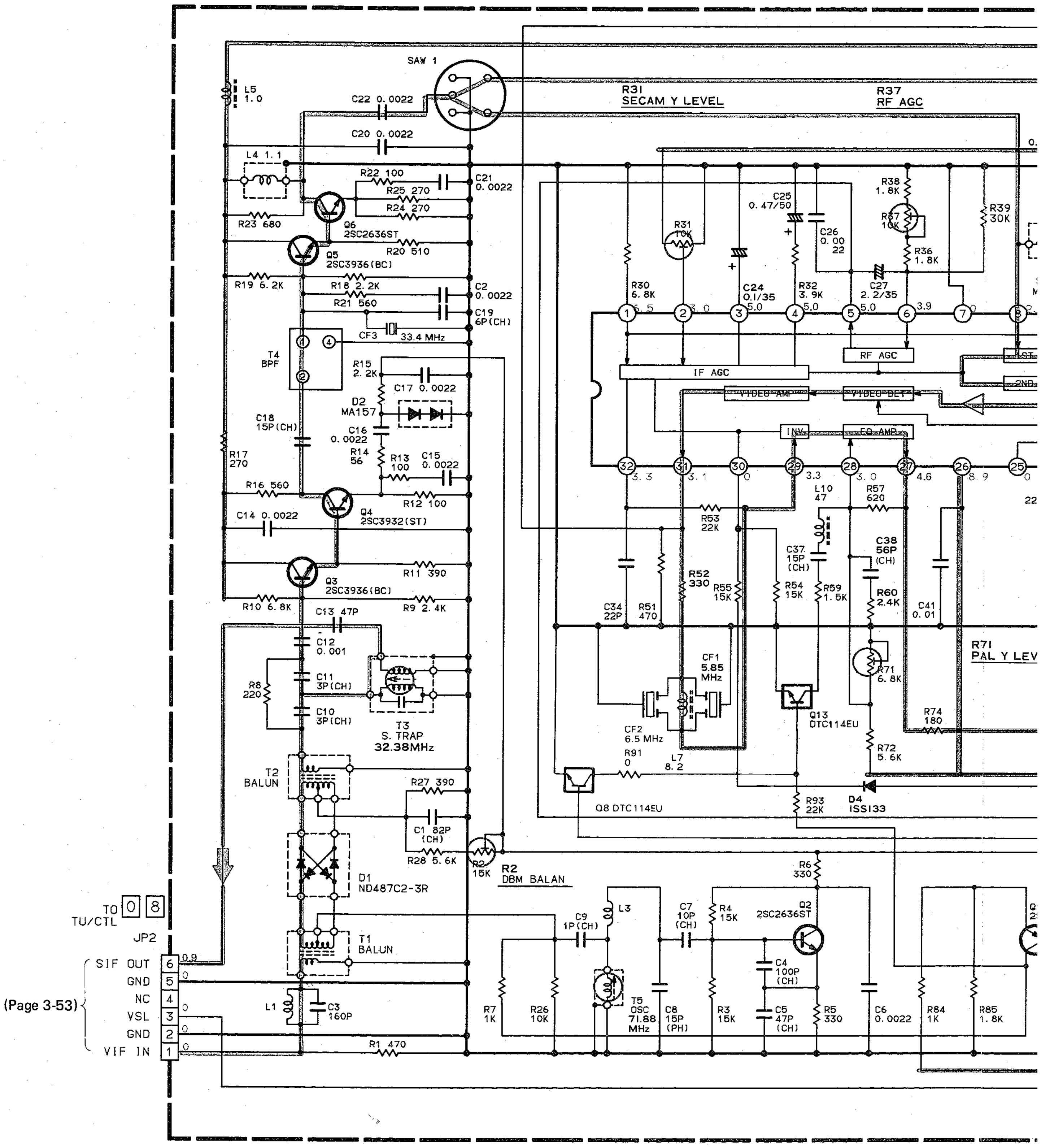

R14
AUDIO LEVEL
C
D
Y
C15
C16
IC1
16
L4
SAW1
B5
C8
C17
C19
C9
B6
R16
R10
C10
C11
R16
R15
B7
B
R39
Q10
B18
C6
R11
L3
E
C31
C7
R12
Q2
R7
R9
R13
C45
C46
B16
DATA
D1
CK
B15
R44
CLK
L2
R8
B31
R47
C40
B17
ENABLE
C3
R4
R3
R50
Q1
C5
R6
R5
C2
17
C2
JP2
6
1
VL
B4
VIF
GND
VSL
NC
GND
SIF
GND
6
7

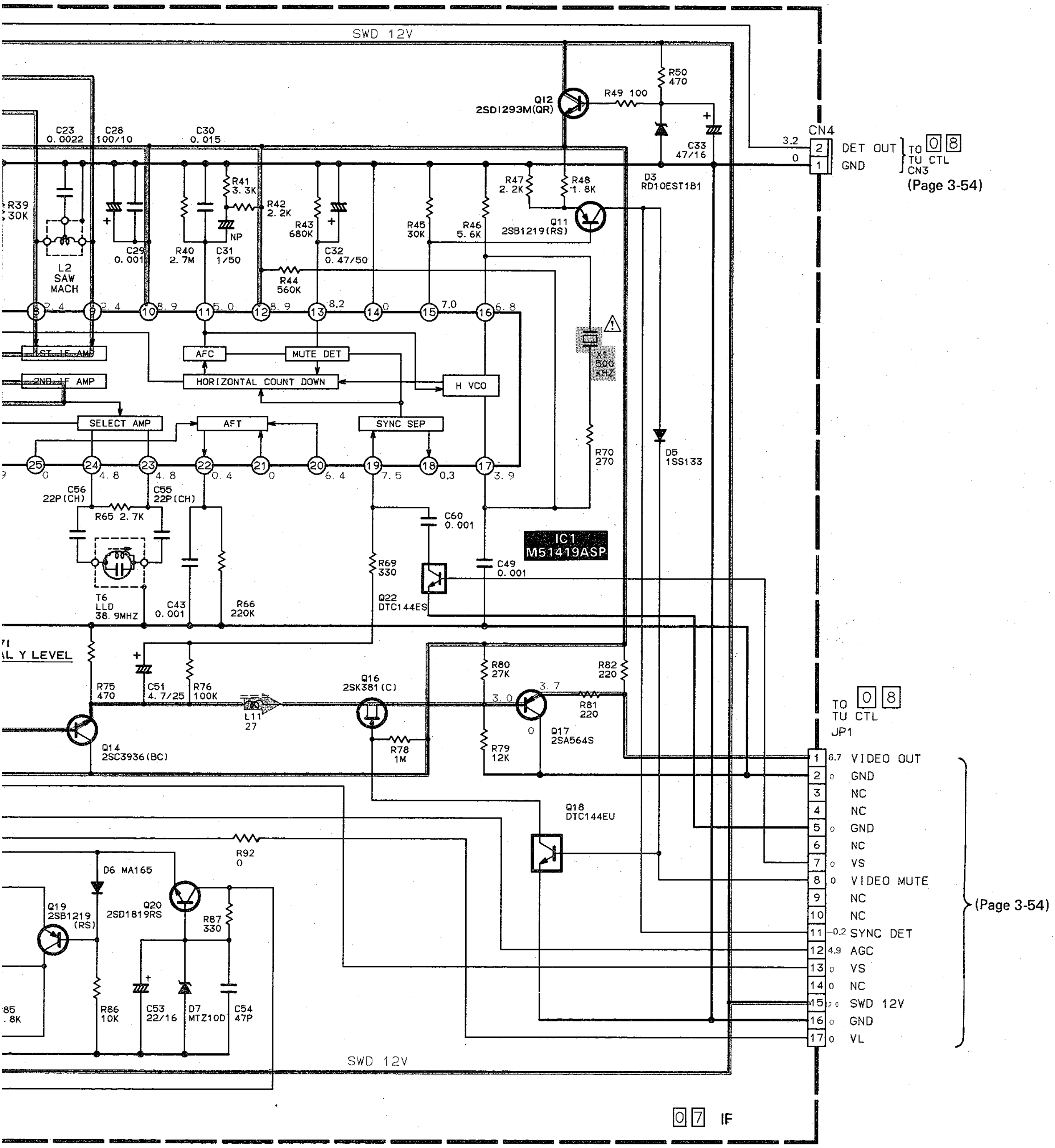
- Address of chip parts

A-1
Address

| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q2 | C-7 |
| Q3 | C-5 |
| Q5 | D-4 |
| Q6 | D-3 |
| Q7 | D-2 |
| Q9 | B-1 |
| Q12 | B-4 |
| Q13 | A-4 |
| Q14 | B-4 |
| Q15 | B-4 |
| Q16 | B-4 |
| Q17 | B-4 |
| Q18 | B-4 |
| **DIODE** | |
| D5 | C-5 |
| **RESISTOR** | |
| R1 | B-5 |
| R7 | C-7 |
| R8 | B-7 |
| R9 | C-7 |
| R11 | C-7 |
| R12 | C-7 |
| R15 | C-6 |
| R16 | C-6 |
| R18 | D-5 |
| R19 | D-5 |
| R21 | D-3 |
| R22 | D-5 |
| R23 | D-5 |
| R24 | D-3 |
| R25 | D-3 |
| R26 | D-4 |
| R27 | E-3 |
| R28 | D-3 |
| R31 | D-2 |
| R32 | D-3 |
| R33 | D-2 |
| R34 | D-2 |
| R35 | D-1 |
| R36 | E-1 |
| R37 | D-1 |
| R38 | D-2 |
| R39 | C-6 |
| R40 | C-2 |
| R42 | B-3 |
| R43 | B-3 |
| R44 | B-6 |
| R46 | B-4 |
| R47 | B-6 |
| R49 | C-5 |
| R50 | B-6 |
| R51 | C-5 |
| R53 | A-5 |
| **CAPACITOR** | |
| C3 | B-6 |
| C5 | B-7 |
| C6 | C-7 |
| C7 | C-7 |
| C8 | D-7 |
| C9 | D-6 |
| C17 | D-6 |
| C19 | D-6 |
| C22 | D-3 |
| C25 | D-2 |
| C27 | E-2 |
| C28 | D-2 |
| C29 | D-1 |
| C30 | D-1 |
| C39 | B-5 |
| C40 | B-6 |
| C41 | C-5 |
| C42 | C-6 |

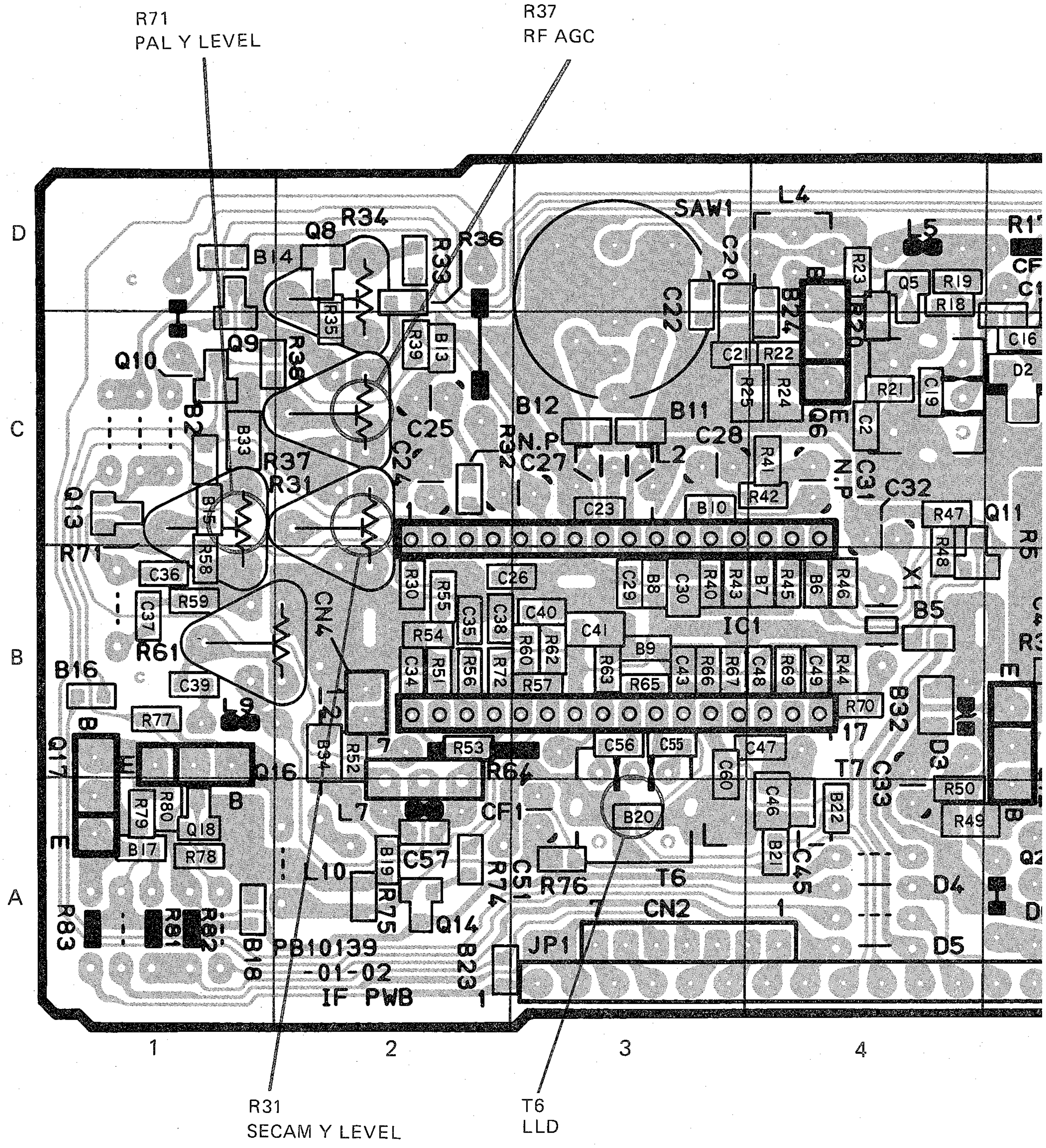
## 3.28 IF SCHEMATIC DIAGRAM

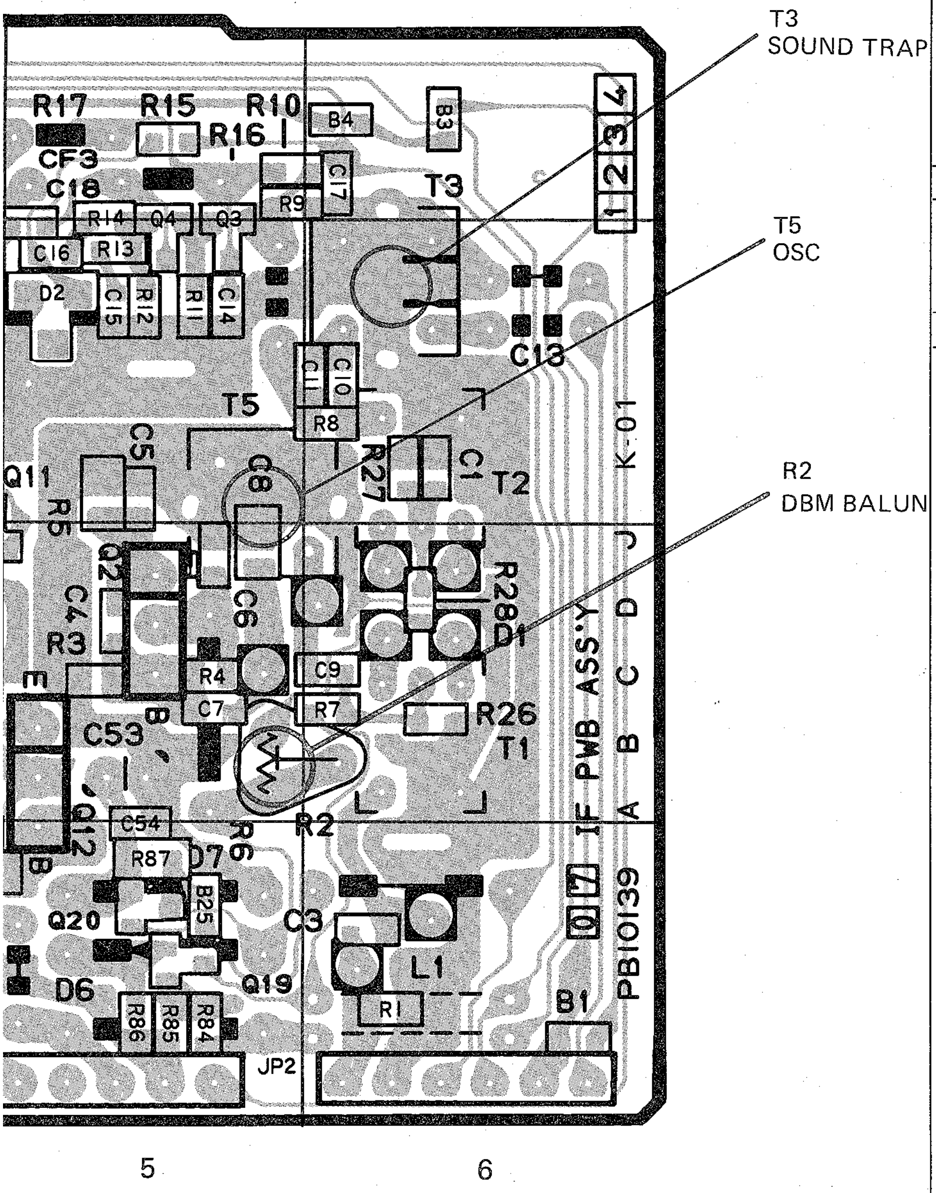

SAW 1
L5 1.0
C22 0.0022
C20 0.0022
L4 1.1
R22 100
R25 270
R24 270
C21 0.0022
R23 680
Q6 2SC2636ST
R20 510
Q5 2SC3936(BC)
R19 6.2K
R18 2.2K
R21 560
C2 0.0022
C19 6P(CH)
CF3 33.4 MHz
T4 BPF
R15 2.2K
C17 0.0022
D2 MA157
C18 15P(CH)
C16 0.0022
R14 56
R13 100
C15 0.0022
R17 270
R16 560
R12 100
C14 0.0022
Q4 2SC3932(ST)
R11 390
Q3 2SC3936(BC)
R10 6.8K
R9 2.4K
C13 47P
C12 0.001
C11 3P(CH)
R8 220
C10 3P(CH)
T3 S. TRAP 32.38MHz
T2 BALUN
R27 390
C1 82P (CH)
R28 5.6K
R2 15K
R2 DBM BALAN
D1 ND487C2-3R
T1 BALUN
L1
C3 160P
R1 470
TO 0 8 TU/CTL
JP2
SIF OUT 6 0.9
GND 5 0
NC 4 0
VSL 3 0
GND 2 0
VIF IN 1 0
(Page 3-53)
R31 SECAM Y LEVEL
R37 RF AGC
R38 1.8K
R39 30K
R31 10K
C25 0.47/50
C26 0.0022
R37 10K
R36 1.8K
R30 6.8K
C24 0.1/35
R32 3.9K
C27 2.2/35
1 6.5
2 3.0
3 5.0
4 5.0
5 5.0
6 3.9
7 0
8
RF AGC
IF AGC
VIDEO AMP
VIDEO DET
INV.
EQ AMP
ST
2ND
32 3.3
31 3.1
30 0
29 3.3
28 3.0
27 4.6
26 8.9
25 0
L10 47
R57 620
R53 22K
C37 15P (CH)
C38 56P (CH)
R52 330
R55 15K
R54 15K
R59 1.5K
R60 2.4K
C34 22P
R51 470
C41 0.01
CF1 5.85 MHz
R71 PAL Y LEV
R71 6.8K
Q13 DTC114EU
R74 180
CF2 6.5 MHz
R91 0
L7 8.2
R72 5.6K
Q8 DTC114EU
R93 22K
D4 1SS133
R6 330
L3
C9 1P(CH)
C7 10P (CH)
R4 15K
Q2 2SC2636ST
C4 100P (CH)
R7 1K
R26 10K
T5 OSC 71.88 MHz
C8 15P (PH)
R3 15K
C5 47P (CH)
R5 330
C6 0.0022
R84 1K
R85 1.8K


SWD 12V
Q12
2SD1293M(QR)
R49 100
R50
470
C33
47/16
D3
RD10EST1B1
CN4
3.2
0
2 DET OUT
1 GND
TO 0 8
TU CTL
CN3
(Page 3-54)
C23
0.0022
C28
100/10
C30
0.015
R39
30K
R41
3.3K
R42
2.2K
R43
680K
C32
0.47/50
R45
30K
R46
5.6K
R47
2.2K
R48
1.8K
Q11
2SB1219(RS)
L2
SAW
MACH
C29
0.001
R40
2.7M
C31
1/50
NP
R44
560K
2.4
8.9
5.0
8.9
8.2
0
7.0
6.8
1ST IF AMP
2ND IF AMP
AFC
MUTE DET
HORIZONTAL COUNT DOWN
H VCO
X1
500
KHZ
SELECT AMP
AFT
SYNC SEP
R70
270
D5
1SS133
0
4.8
4.8
0.4
0
6.4
7.5
0.3
3.9
C56
22P(CH)
C55
22P(CH)
R65 2.7K
C60
0.001
IC1
M51419ASP
C49
0.001
R69
330
Q22
DTC144ES
T6
LLD
38.9MHZ
C43
0.001
R66
220K
Y LEVEL
R75
470
C51
4.7/25
R76
100K
L11
27
Q16
2SK381(C)
R78
1M
R80
27K
R79
12K
3.0
3.7
0
Q17
2SA564S
R82
220
R81
220
Q14
2SC3936(BC)
TO 0 8
TU CTL
JP1
1 6.7 VIDEO OUT
2 0 GND
3 NC
4 NC
5 0 GND
6 NC
7 0 VS
8 0 VIDEO MUTE
9 NC
10 NC
11 -0.2 SYNC DET
12 4.9 AGC
13 0 VS
14 0 NC
15 2.0 SWD 12V
16 0 GND
17 0 VL
(Page 3-54)
Q18
DTC144EU
R92
0
D6 MA165
Q19
2SB1219
(RS)
Q20
2SD1819RS
R87
330
R85
8K
R86
10K
C53
22/16
D7
MTZ10D
C54
47P
SWD 12V
0 7 IF

**Note:** Voltages are DC-measured with a
digital voltmeter during stop and tuner mode.

## 3.29 IF CIRCUIT BOARD


R71
PAL Y LEVEL
R37
RF AGC
R31
SECAM Y LEVEL
T6
LLD
SAW1
L4
L5
IC1
CN2
JP1
CN4
PB10139
-01-02
IF PWB
D
C
B
A
1
2
3
4


T3
SOUND TRAP
T5
OSC
R2
DBM BALUN
R17
R15
R10
R16
B4
B3
CF3
C18
R14
Q4
Q3
R9
C17
T3
C16
R13
D2
C15
R12
R11
C14
C13
C11
C10
T5
R8
C5
Q11
R5
Q8
R27
C1
T2
K-01
Q2
C4
R3
C6
R28
D1
J
D
E
R4
C9
C
C7
R7
R26
C53
T1
B
Q12
C54
R2
A
IF PWB ASS'Y
R87
D7
R6
B25
Q20
C3
0 1 7
PB10139
D6
Q19
L1
R1
B1
R86
R85
R84
JP2
1
2
3
4
5
6

◎ Address of chip parts

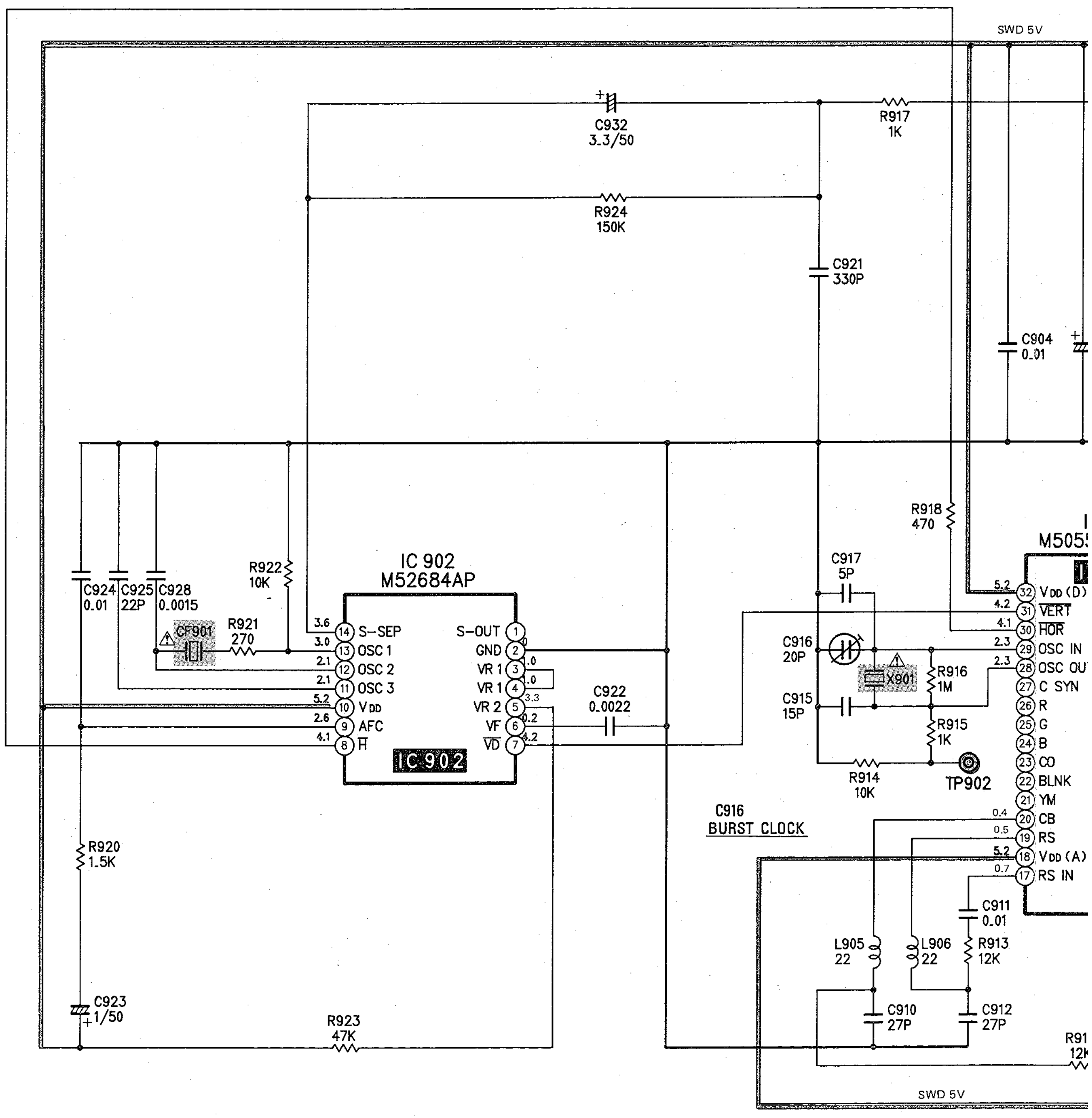
A-1 └─ Address

| REF. No. | LOCATION |
|---|---|
| **TRANSISTOR** | |
| Q3 | C-5 |
| Q4 | C-5 |
| Q5 | D-4 |
| Q8 | D-2 |
| Q13 | C-1 |
| Q14 | A-2 |
| Q18 | A-1 |
| Q19 | A-5 |
| Q20 | A-5 |
| **DIODE** | |
| D2 | C-5 |
| **RESISTOR** | |
| R1 | A-6 |
| R3 | B-5 |
| R4 | B-5 |
| R5 | C-5 |
| R7 | B-6 |
| R8 | C-6 |
| R9 | D-5 |
| R10 | D-5 |
| R11 | C-5 |
| R12 | C-5 |
| R13 | C-5 |
| R14 | C-5 |
| R15 | D-5 |
| R18 | D-4 |
| R19 | D-4 |
| R20 | C-4 |
| R21 | C-4 |
| R22 | C-4 |
| R23 | D-4 |
| R24 | C-4 |
| R25 | C-4 |
| R26 | B-6 |
| R27 | C-6 |
| R28 | B-6 |
| R30 | B-2 |
| R32 | C-2 |
| R36 | D-2 |
| R38 | C-1 |
| R39 | C-2 |
| R40 | B-3 |
| R41 | C-4 |
| R42 | C-4 |
| R43 | B-3 |
| R44 | B-4 |
| R45 | B-4 |
| R46 | B-4 |
| R47 | C-4 |
| R48 | B-4 |
| R49 | A-4 |
| R50 | A-4 |

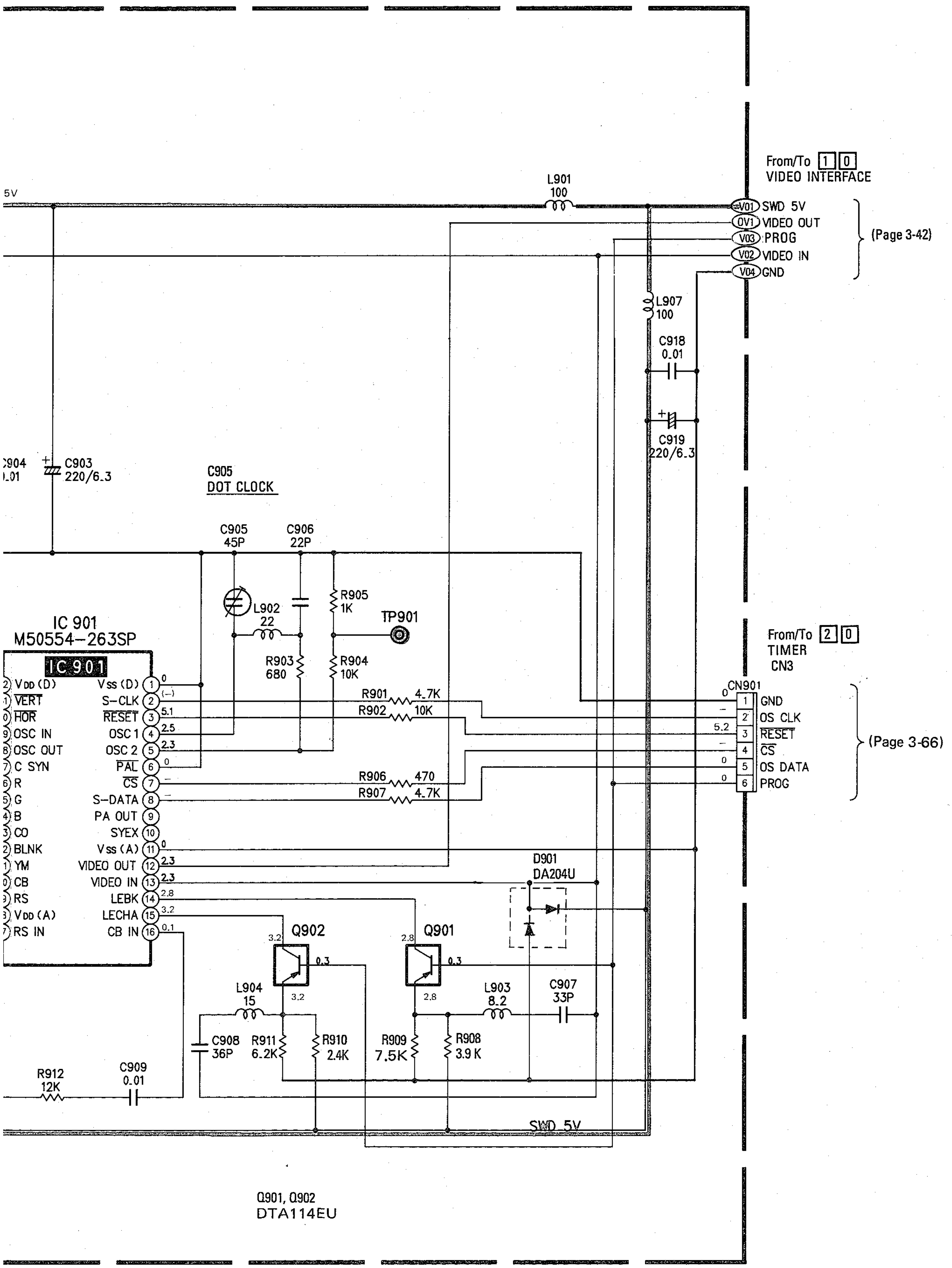
| REF. No. | LOCATION |
|---|---|
| **RESISTOR** | |
| R51 | B-2 |
| R52 | B-2 |
| R53 | B-2 |
| R54 | B-2 |
| R55 | B-2 |
| R57 | B-3 |
| R59 | B-1 |
| R60 | B-3 |
| R65 | B-3 |
| R66 | B-3 |
| R69 | B-4 |
| R70 | B-4 |
| R72 | B-2 |
| R74 | A-2 |
| R75 | A-2 |
| R76 | A-3 |
| R78 | A-1 |
| R79 | A-1 |
| R80 | A-1 |
| R84 | A-5 |
| R85 | A-5 |
| R86 | A-5 |
| R87 | A-5 |
| **CAPACITOR** | |
| C1 | C-6 |
| C2 | C-4 |
| C3 | A-6 |
| C4 | B-5 |
| C5 | C-5 |
| C6 | B-5 |
| C7 | B-5 |
| C8 | B-5 |
| C9 | B-6 |
| C10 | C-6 |
| C11 | C-6 |
| C14 | C-5 |
| C15 | C-5 |
| C16 | C-5 |
| C17 | D-5 |
| C18 | C-5 |
| C19 | C-4 |
| C20 | C-3 |
| C21 | C-3 |
| C22 | C-3 |
| C23 | C-3 |
| C26 | B-2 |
| C29 | B-3 |
| C30 | B-3 |
| C34 | B-2 |
| C37 | B-1 |
| C38 | B-2 |
| C41 | B-3 |
| C43 | B-3 |
| C49 | B-4 |
| C54 | A-5 |
| C55 | B-3 |
| C56 | B-3 |

## 3.30 ON SCREEN SCHEMATIC DIAGRAM

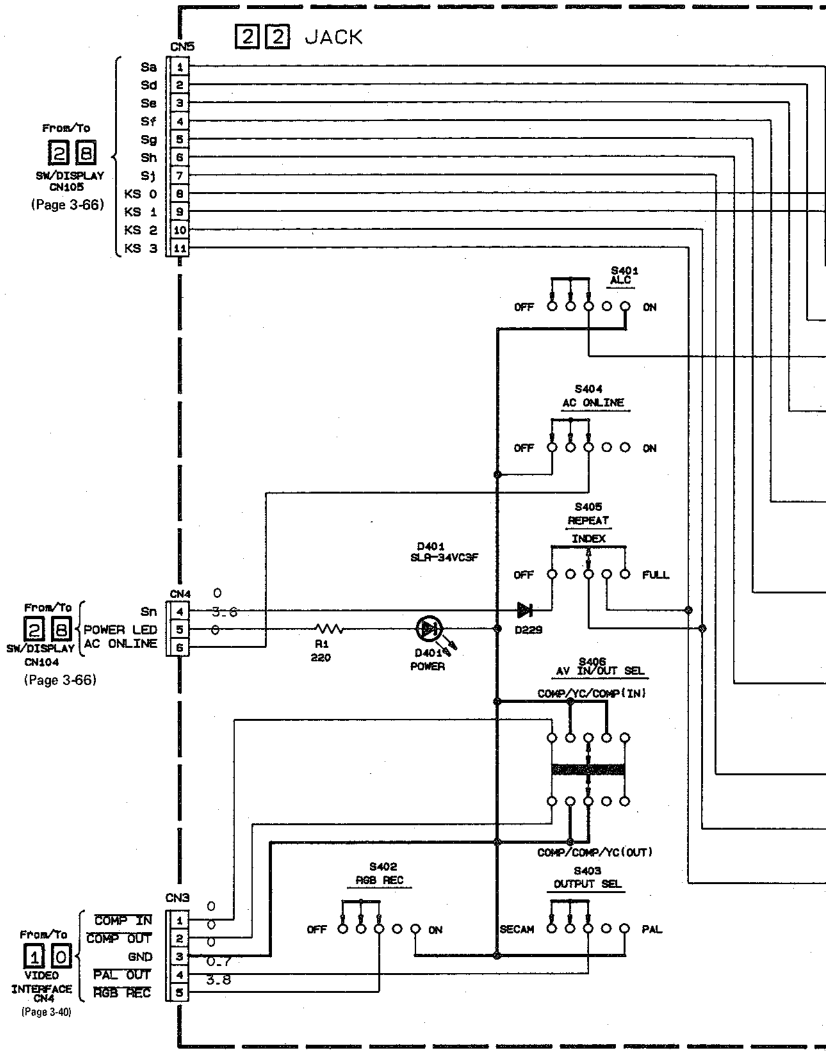
### 10 ON SCREEN (VIDEO INTERFACE)


SWD 5V
C932
3.3/50
R917
1K
R924
150K
C921
330P
C904
0.01
R918
470
M505
IC 902
M52684AP
R922
10K
C924
0.01
C925
22P
C928
0.0015
CF901
R921
270
3.6
3.0
2.1
2.1
5.2
2.6
4.1
14 S-SEP
13 OSC 1
12 OSC 2
11 OSC 3
10 VDD
9 AFC
8 H
S-OUT 1
GND 2
VR 1 3
VR 1 4
VR 2 5
VF 6
VD 7
0
1.0
1.0
3.3
0.2
4.2
C922
0.0022
IC902
C917
5P
C916
20P
C915
15P
X901
R916
1M
R915
1K
R914
10K
TP902
C916
BURST CLOCK
5.2
4.2
4.1
2.3
2.3
32 VDD (D)
31 VERT
30 HOR
29 OSC IN
28 OSC OU
27 C SYN
26 R
25 G
24 B
23 CO
22 BLNK
21 YM
0.4
20 CB
0.5
19 RS
5.2
18 VDD (A)
0.7
17 RS IN
C911
0.01
L905
22
L906
22
R913
12K
C910
27P
C912
27P
R91
12
R920
1.5K
C923
1/50
R923
47K
SWD 5V
6
5
4
3
2
1
A
B
C

**NOTE:** Voltages are DC-measured with a digital voltmeter during stop and tuner mode.

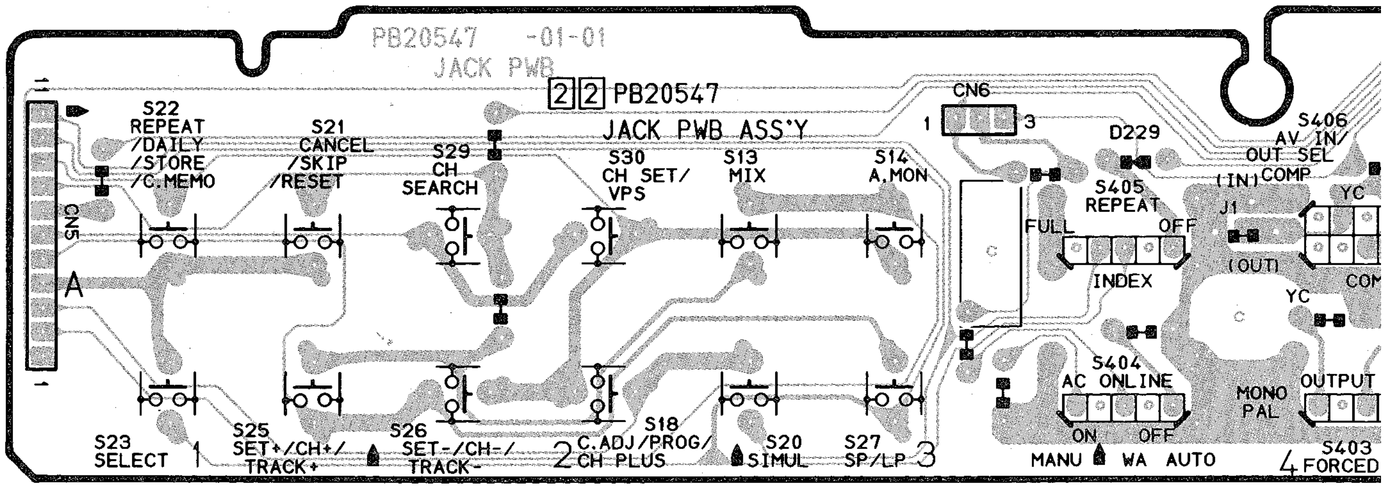

From/To 1 0
VIDEO INTERFACE
5V
L901
100
V01 SWD 5V
OV1 VIDEO OUT
V03 PROG
V02 VIDEO IN
V04 GND
(Page 3-42)
L907
100
C918
0.01
C919
220/6.3
C904
0.01
C903
220/6.3
C905
DOT CLOCK
C905
45P
C906
22P
L902
22
R905
1K
TP901
R903
680
R904
10K
IC 901
M50554-263SP
IC901
VDD (D)
VERT
HOR
OSC IN
OSC OUT
C SYN
R
G
B
CO
BLNK
YM
CB
RS
VDD (A)
RS IN
VSS (D) 1
S-CLK 2
RESET 3
OSC 1 4
OSC 2 5
PAL 6
CS 7
S-DATA 8
PA OUT 9
SYEX 10
VSS (A) 11
VIDEO OUT 12
VIDEO IN 13
LEBK 14
LECHA 15
CB IN 16
0
(–)
5.1
2.5
2.3
0
–
–
0
2.3
2.3
2.8
3.2
0.1
R901 4.7K
R902 10K
R906 470
R907 4.7K
From/To 2 0
TIMER
CN3
CN901
0
–
5.2
–
0
0
1 GND
2 OS CLK
3 RESET
4 CS
5 OS DATA
6 PROG
(Page 3-66)
D901
DA204U
Q902
3.2
0.3
3.2
Q901
2.8
0.3
2.8
L904
15
C908
36P
R911
6.2K
R910
2.4K
R909
7.5K
R908
3.9K
L903
8.2
C907
33P
R912
12K
C909
0.01
SWD 5V
Q901, Q902
DTA114EU

## 3.31 JACK SCHEMATIC DIAGRAM



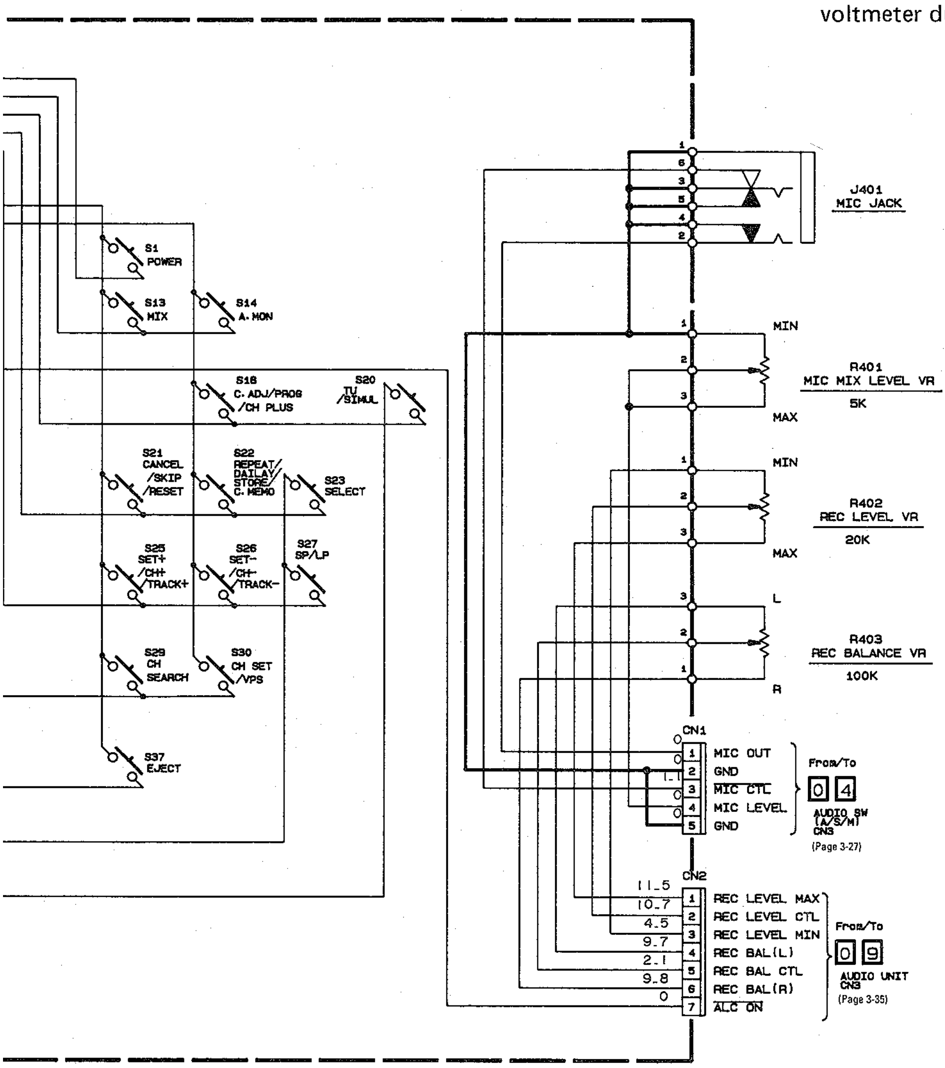
22 JACK
CN5
Sa 1
Sd 2
Se 3
Sf 4
Sg 5
Sh 6
Sj 7
KS 0 8
KS 1 9
KS 2 10
KS 3 11
From/To
28
SW/DISPLAY CN105
(Page 3-66)
S401 ALC
OFF
ON
S404 AC ONLINE
OFF
ON
S405 REPEAT
INDEX
OFF
FULL
D401 SLR-34VC3F
CN4
Sn 4
POWER LED 5
AC ONLINE 6
From/To
28
SW/DISPLAY CN104
(Page 3-66)
0
3.6
0
R1 220
D401 POWER
D229
S406 AV IN/OUT SEL
COMP/YC/COMP(IN)
COMP/COMP/YC(OUT)
S402 RGB REC
OFF
ON
S403 OUTPUT SEL
SECAM
PAL
CN3
COMP IN 1
COMP OUT 2
GND 3
PAL OUT 4
RGB REC 5
0
0
0
0.7
3.8
From/To
10
VIDEO INTERFACE CN4
(Page 3-40)

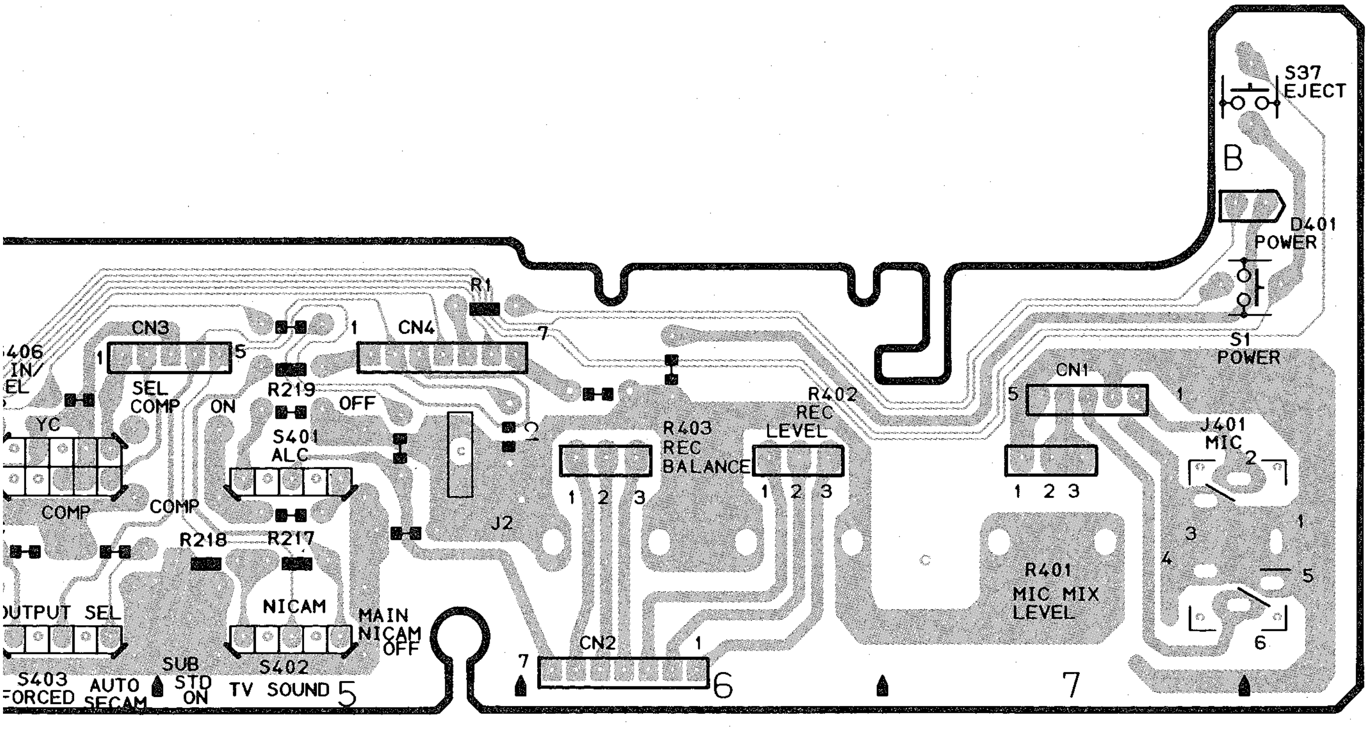
## 3.32 JACK CIRCUIT BOARD



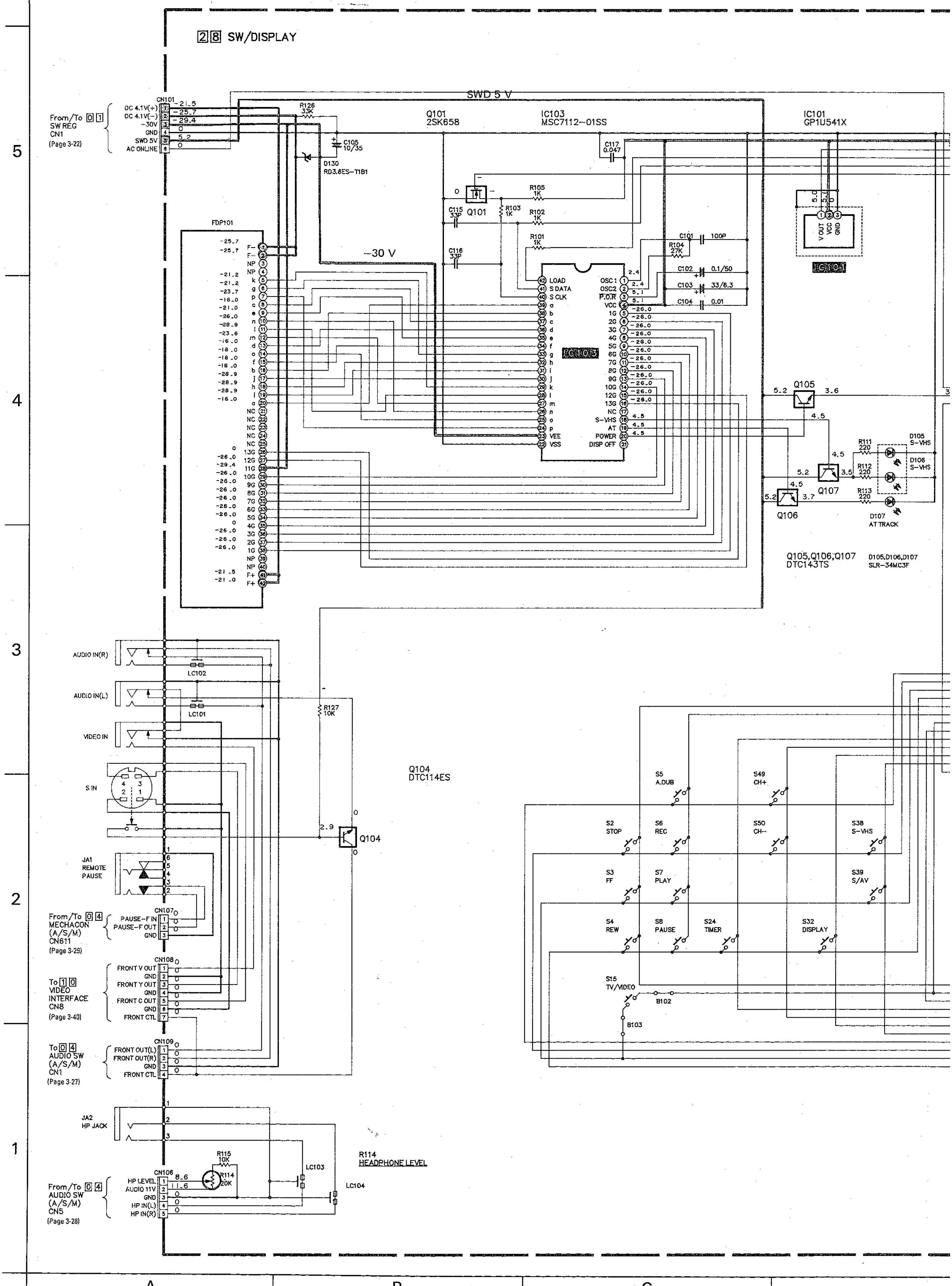
PB20547 -01-01
JACK PWB
22 PB20547
JACK PWB ASS'Y
11
1
CN5
A
S22 REPEAT /DAILY /STORE /C.MEMO
S21 CANCEL /SKIP /RESET
S29 CH SEARCH
S30 CH SET/ VPS
S13 MIX
S14 A.MON
CN6
1
3
D229
S405 REPEAT
FULL
OFF
INDEX
S406 AV IN/ OUT SEL
(IN) COMP
YC
J1
(OUT)
YC
COM
S404 AC ONLINE
ON
OFF
MANU
WA
AUTO
MONO
PAL
OUTPUT
S403 FORCED
S23 SELECT
1
S25 SET+/CH+/ TRACK+
S26 SET-/CH-/ TRACK-
2
S18 C.ADJ/PROG/ CH PLUS
S20 SIMUL
S27 SP/LP
3
4

**NOTE:** Voltages are DC-measured with a digital voltmeter during stop and tuner mode.


J401
MIC JACK
S1
POWER
S13
MIX
S14
A.MON
S18
C.ADJ/PROG
/CH PLUS
S20
TU
/SIMUL
S21
CANCEL
/SKIP
/RESET
S22
REPEAT/
DAILAY/
STORE/
C.MEMO
S23
SELECT
S25
SET+
/CH+
/TRACK+
S26
SET-
/CH-
/TRACK-
S27
SP/LP
S29
CH
SEARCH
S30
CH SET
/VPS
S37
EJECT
MIN
MAX
R401
MIC MIX LEVEL VR
5K
R402
REC LEVEL VR
20K
L
R
R403
REC BALANCE VR
100K
CN1
1 MIC OUT
2 GND
3 MIC CTL
4 MIC LEVEL
5 GND
0
1.1
0
From/To
0 4
AUDIO SW
(A/S/M)
CN3
(Page 3-27)
CN2
11.5
10.7
4.5
9.7
2.1
9.8
0
1 REC LEVEL MAX
2 REC LEVEL CTL
3 REC LEVEL MIN
4 REC BAL(L)
5 REC BAL CTL
6 REC BAL(R)
7 ALC ON
From/To
0 9
AUDIO UNIT
CN3
(Page 3-35)


S37
EJECT
B
D401
POWER
S1
POWER
R1
CN3
CN4
406
IN/
EL
YC
SEL
COMP
ON
R219
OFF
S401
ALC
COMP
COMP
R218
R217
J2
R403
REC
BALANCE
R402
REC
LEVEL
CN1
J401
MIC
R401
MIC MIX
LEVEL
OUTPUT SEL
NICAM
MAIN
NICAM
OFF
S403
FORCED
AUTO
SECAM
SUB
STD
ON
S402
TV SOUND
CN2
5
6
7

## 3.33 TIMER AND SW/DISPLAY SCHEMATIC DIAGRAM



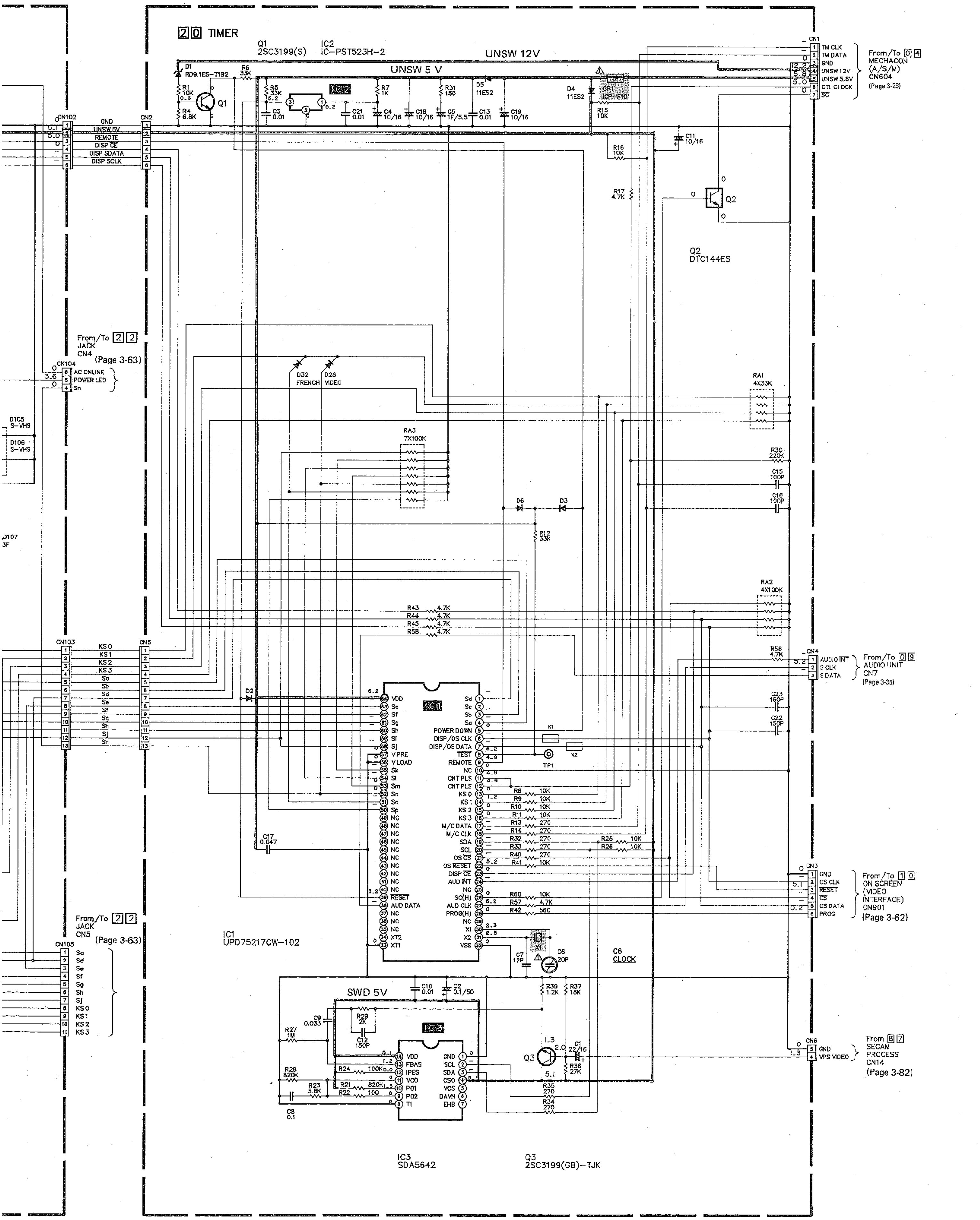
6
5
4
3
2
1
28 SW/DISPLAY
SWD 5 V
From/To 01 SW REG CN1 (Page 3-22)
CN101
DC 4.1V(+)
DC 4.1V(-)
-30V
GND
SWD 5V
AC ONLINE
-21.5
-25.7
-29.4
0
5.2
0
R126 33K
C105 10/35
D130 RD3.6ES-T1B1
Q101 2SK658
IC103 MSC7112-01SS
IC101 GP1U541X
C117 0.047
R105 1K
C115 33P
R103 1K
R102 1K
R101 1K
C116 33P
-30 V
FDP101
C101 100P
R104 27K
C102 0.1/50
C103 33/6.3
C104 0.01
LOAD
S DATA
S CLK
VEE
VSS
OSC1
OSC2
P.O.R
VCC
S-VHS
AT
POWER
DISP OFF
IC103
V OUT
VCC
GND
IC101
Q105
Q106
Q107
R111 220
R112 220
R113 220
D105 S-VHS
D106 S-VHS
D107 AT TRACK
Q105,Q106,Q107 DTC143TS
D105,D106,D107 SLR-34MC3F
AUDIO IN(R)
LC102
AUDIO IN(L)
LC101
VIDEO IN
S IN
R127 10K
Q104 DTC114ES
Q104
2.9
JA1 REMOTE PAUSE
From/To 04 MECHACON (A/S/M) CN611 (Page 3-29)
CN107
PAUSE-F IN
PAUSE-F OUT
GND
To 10 VIDEO INTERFACE CN8 (Page 3-40)
CN108
FRONT V OUT
FRONT Y OUT
FRONT C OUT
FRONT CTL
To 04 AUDIO SW (A/S/M) CN1 (Page 3-27)
CN109
FRONT OUT(L)
FRONT OUT(R)
JA2 HP JACK
From/To 04 AUDIO SW (A/S/M) CN5 (Page 3-28)
CN106
HP LEVEL
AUDIO 11V
HP IN(L)
HP IN(R)
8.6
11.6
R115 10K
R114 20K
LC103
LC104
R114 HEADPHONE LEVEL
S5 A.DUB
S49 CH+
S2 STOP
S6 REC
S50 CH-
S38 S-VHS
S3 FF
S7 PLAY
S39 S/AV
S4 REW
S8 PAUSE
S24 TIMER
S32 DISPLAY
S15 TV/VIDEO
B102
B103

A

B

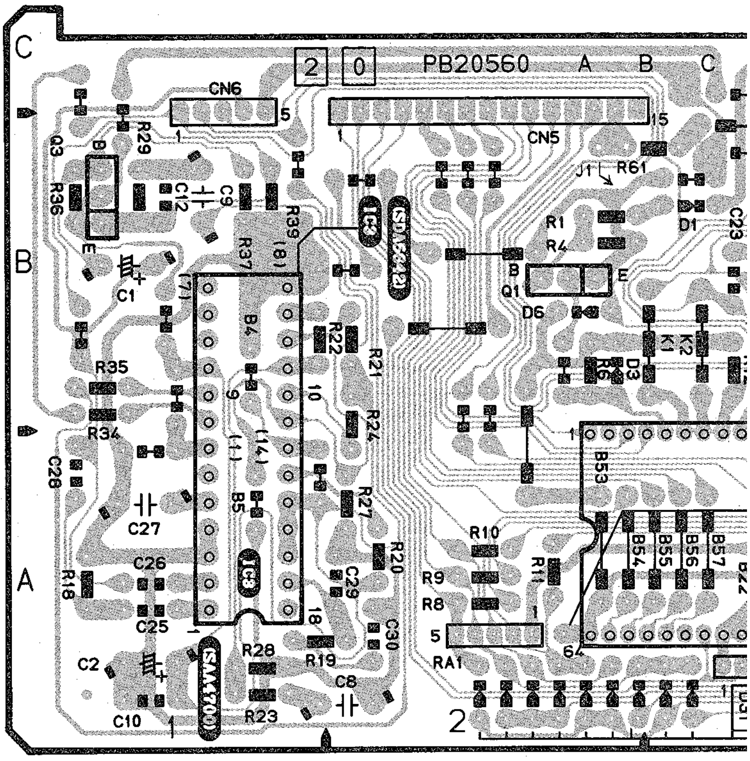
C

**Note:** Voltages are DC-measured with a digital voltmeter during stop and tuner mode.

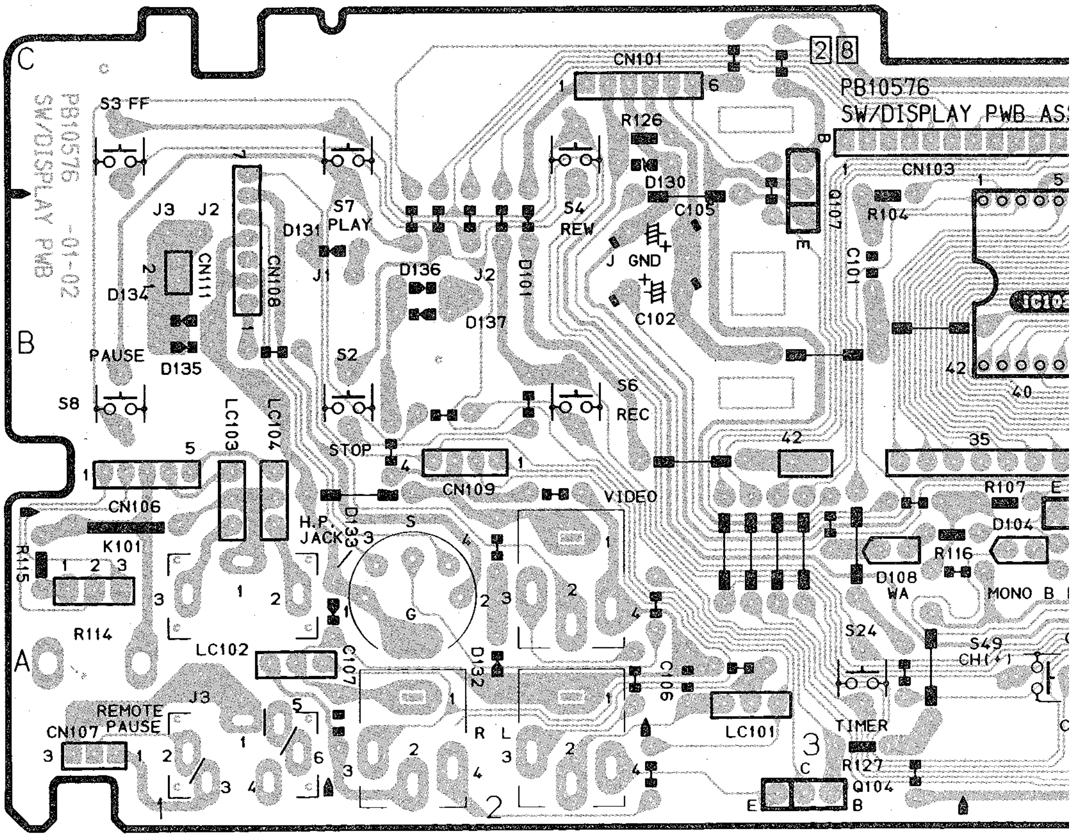

20 TIMER
Q1 2SC3199(S)
IC2 IC-PST523H-2
UNSW 12V
UNSW 5 V
D1 RD9.1ES-T1B2
D4 11ES2
D5 11ES2
CP1 ICP-F10
CN1
TM CLK
TM DATA
GND
UNSW 12V
UNSW 5.8V
CTL CLOCK
SC
From/To 04 MECHACON (A/S/M) CN604 (Page 3-29)
CN102
GND
UNSW 5V
REMOTE
DISP CE
DISP SDATA
DISP SCLK
CN2
Q2 DTC144ES
From/To 22 JACK CN4 (Page 3-63)
CN104
AC ONLINE
POWER LED
Sn
D32 FRENCH
D28 VIDEO
RA1 4X33K
RA3 7X100K
RA2 4X100K
D105 S-VHS
D106 S-VHS
CN103
CN5
CN4
AUDIO INT
S CLK
S DATA
From/To 09 AUDIO UNIT CN7 (Page 3-35)
IC1
VDD
POWER DOWN
DISP/OS CLK
DISP/OS DATA
TEST
REMOTE
CNT PLS
M/C DATA
M/C CLK
SDA
SCL
OS CS
OS RESET
DISP CE
AUD INT
SC(H)
AUD CLK
PROG(H)
X1
X2
VSS
RESET
AUD DATA
XT2
XT1
TP1
CN3
GND
OS CLK
RESET
CS
OS DATA
PROG
From/To 10 ON SCREEN (VIDEO INTERFACE) CN901 (Page 3-62)
From/To 22 JACK CN5 (Page 3-63)
CN105
IC1 UPD75217CW-102
C6 CLOCK
SWD 5V
IC3
FBAS
IPES
VCO
PO1
PO2
TI
GND
SCL
SDA
CSO
VCS
DAVN
EHB
CN6
GND
VPS VIDEO
From 87 SECAM PROCESS CN14 (Page 3-82)
IC3 SDA5642
Q3 2SC3199(GB)-TJK

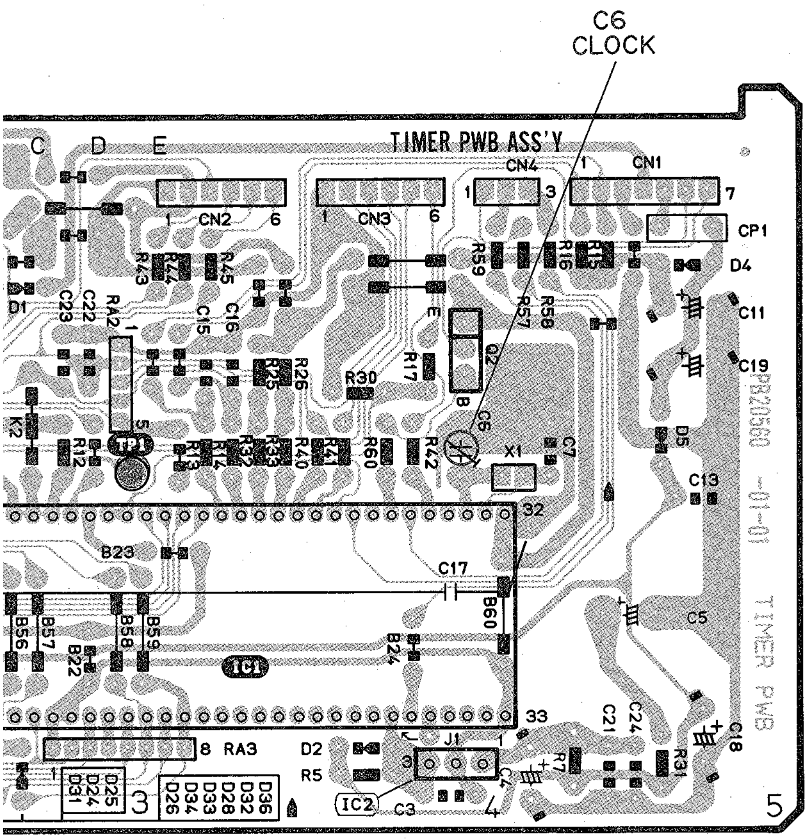
## 3.34 TIMER AND SW/DISPLAY CIRCUIT BOARDS

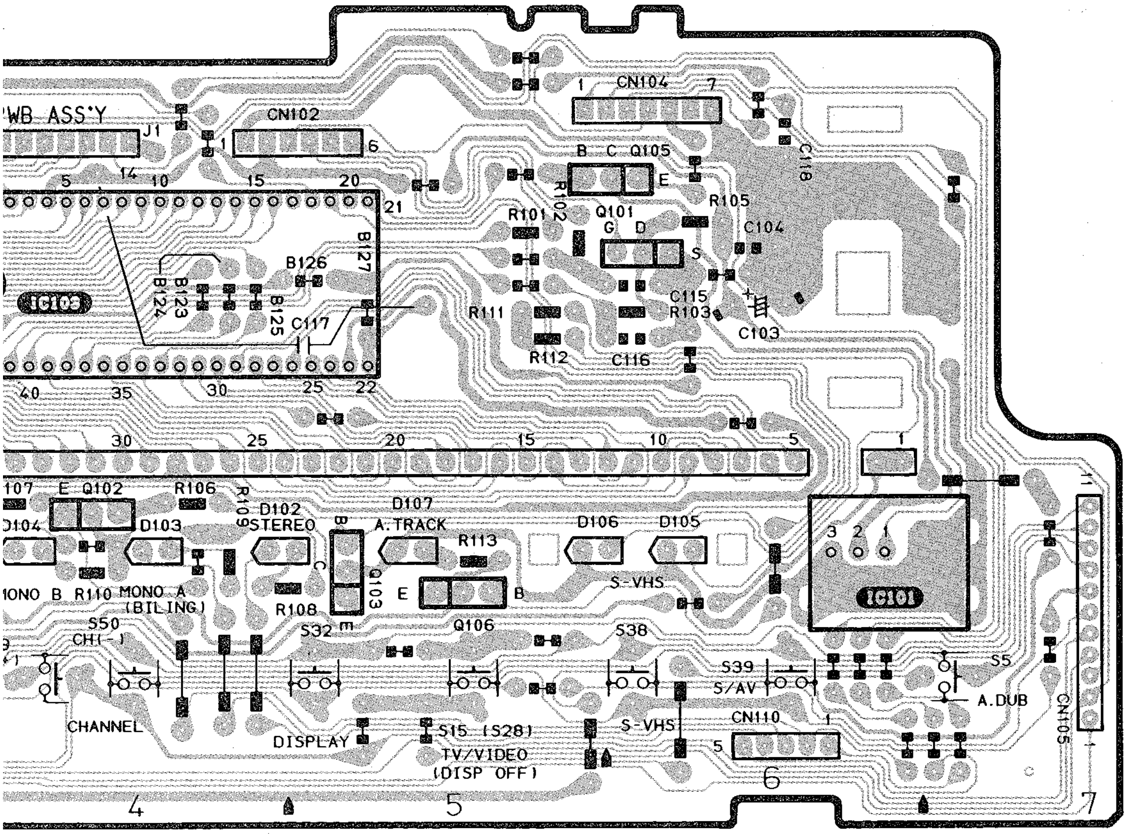
— TIMER —


PB20560
2
0
A
B
C
CN6
CN5
1
5
15
Q3
R29
R36
C12
C9
R39
R37
IC3
ISD-X342
R61
J1
R1
R4
D1
C23
Q1
B
E
D6
C1
R22
R21
B4
9
10
R35
R34
K1
K2
R6
D3
C28
(11)
(14)
R24
B53
C27
B5
R27
R10
B54
B55
B56
B57
R11
C26
IC9
C29
R20
R18
R9
R8
C25
18
C30
5
RA1
64
R28
R19
C2
SAA1700
C8
C10
R23
2

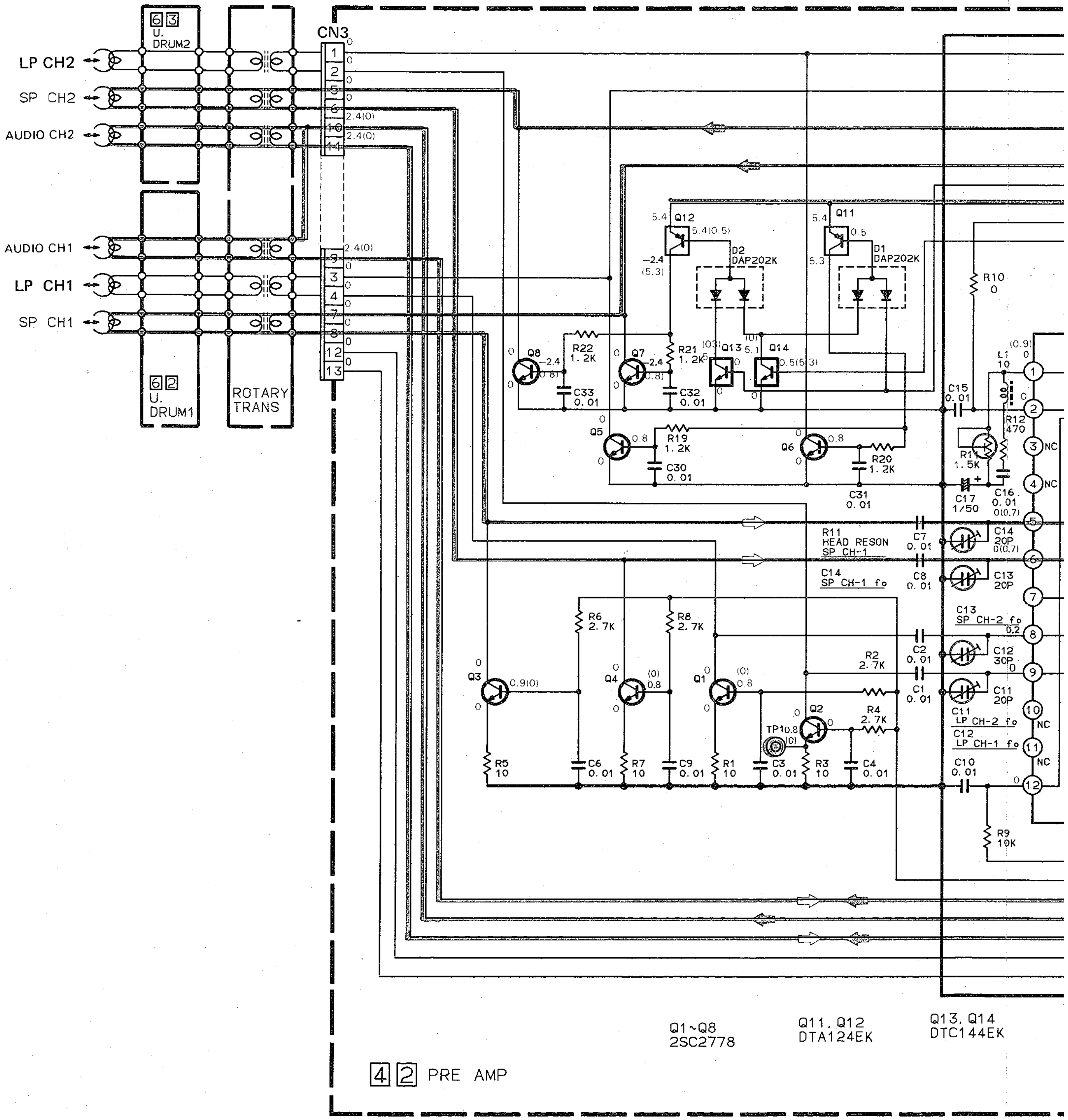
— SW/DISPLAY —

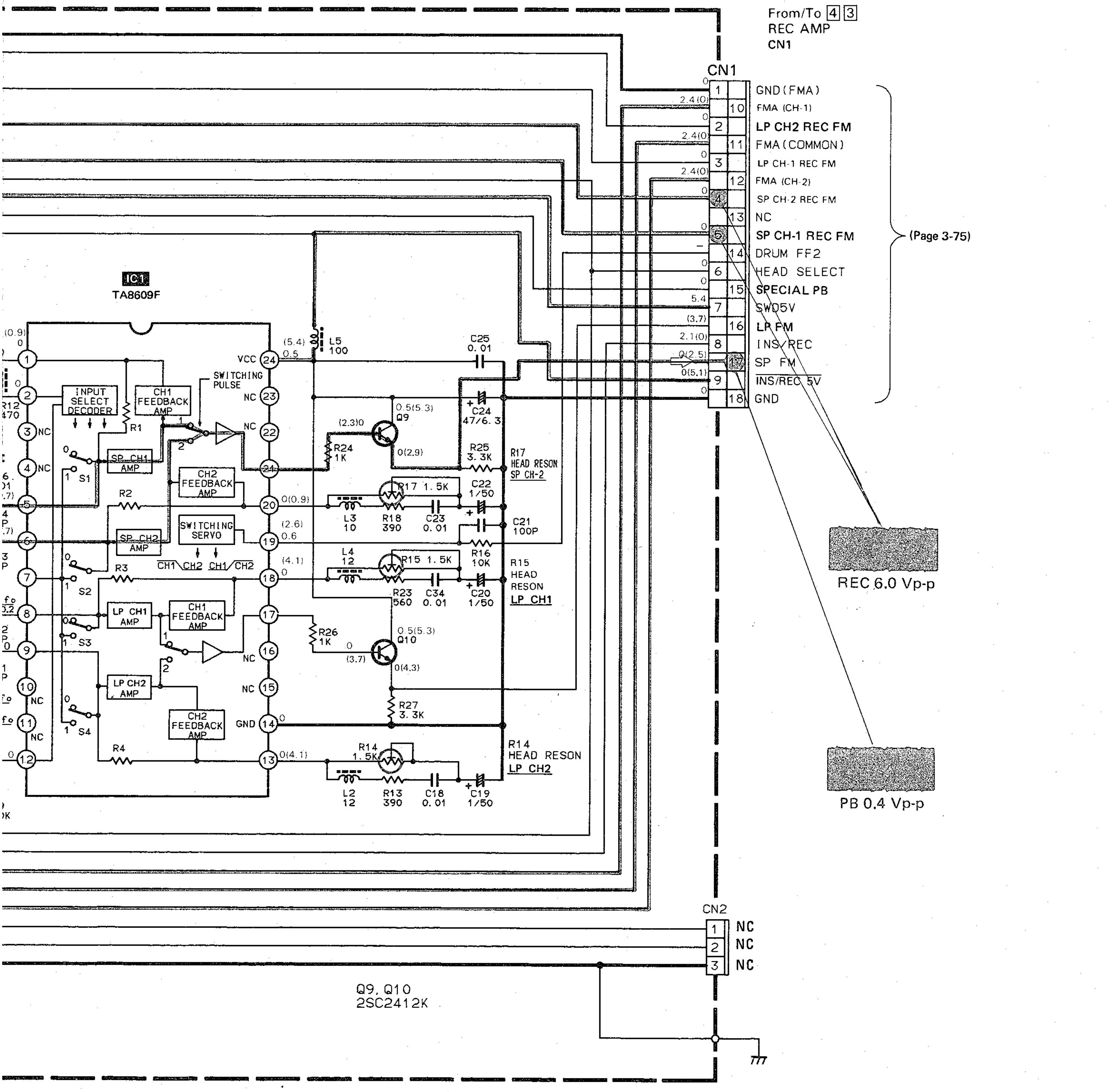

PB10576
SW/DISPLAY PWB
-01-02
2
8
PB10576
SW/DISPLAY PWB ASS
CN101
1
6
S3 FF
R126
D130
C105
Q107
B
E
CN103
R104
J3
J2
S7
PLAY
S4
REW
D131
J1
CN111
CN108
J
GND
C101
D134
D136
J2
D101
C102
IC10
D137
PAUSE
D135
S2
S6
REC
42
40
S8
LC103
LC104
STOP
CN109
35
42
CN106
VIDEO
R107
D104
K101
R115
H.P.
JACK
D133
S
G
R116
D108
WA
MONO B
R114
S24
S49
CH(+)
LC102
C107
D132
C106
REMOTE
PAUSE
J3
CN107
LC101
TIMER
R127
Q104
C
E
B
R
L
3
2


C6
CLOCK
TIMER PWB ASS'Y
CN1
CN2
CN3
CN4
CP1
D4
C11
C19
Q2
X1
C7
C6
R59
R16
R57
R58
R17
R30
R26
R25
RA2
TP1
IC1
C17
B60
B23
B24
B56
B57
B58
B59
B22
C5
C13
D5
C21
C24
C18
R31
R7
C4
J1
IC2
C3
D2
R5
RA3
D25
D24
D31
D36
D32
D28
D33
D34
D26
PB20560 -01-01
TIMER PWB
C
D
E
3
4
5


PWB ASS'Y
J1
CN102
CN104
Q105
R102
R105
C118
Q101
R101
C104
B126
B127
B123
B124
B125
IC103
C117
R111
R112
C116
C115
R103
C103
Q102
R106
R109
D107
D103
D104
D102
STEREO
A.TRACK
R113
D106
D105
Q103
R108
Q106
R110
MONO B
MONO A
(BILING)
IC101
S50
CH(-)
S32
S38
S39
S/AV
S5
A.DUB
CN110
CN105
S-VHS
CHANNEL
DISPLAY
S15 (S28)
TV/VIDEO
(DISP OFF)
4
5
6
7

## 3.35 PRE AMP SCHEMATIC DIAGRAM


LP CH2
SP CH2
AUDIO CH2
AUDIO CH1
LP CH1
SP CH1
6 3 U. DRUM2
6 2 U. DRUM1
ROTARY TRANS
CN3
Q12
Q11
D2 DAP202K
D1 DAP202K
R10 0
Q8
Q7
Q13
Q14
R22 1.2K
R21 1.2K
C33 0.01
C32 0.01
Q5
Q6
R19 1.2K
R20 1.2K
C30 0.01
C31 0.01
L1 10
R12 470
C15 0.01
R1? 1.5K
C17 1/50
C16 0.01
R11 HEAD RESON SP CH-1
C14 SP CH-1 fo
C7 0.01
C8 0.01
C14 20P
C13 20P
C13 SP CH-2 fo
C12 30P
C11 20P
C11 LP CH-2 fo
C12 LP CH-1 fo
C10 0.01
R9 10K
R6 2.7K
R8 2.7K
R2 2.7K
R4 2.7K
C2 0.01
C1 0.01
Q3
Q4
Q1
Q2
TP1
R5 10
C6 0.01
R7 10
C9 0.01
R1 10
C3 0.01
R3 10
C4 0.01
NC
Q1~Q8 2SC2778
Q11, Q12 DTA124EK
Q13, Q14 DTC144EK
4 2 PRE AMP

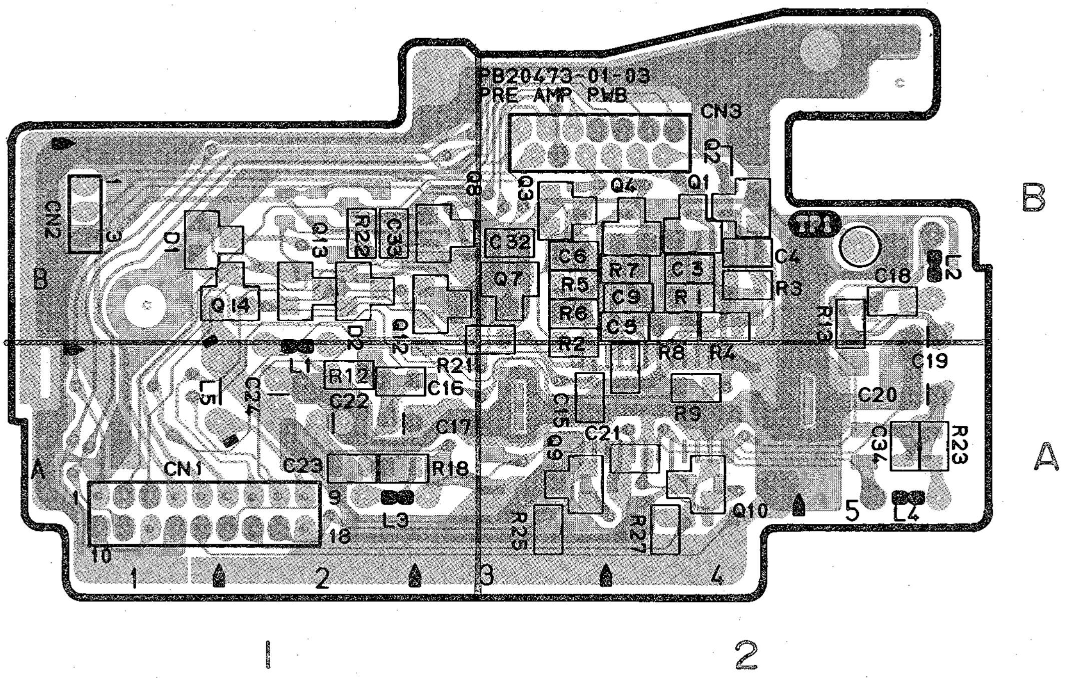

From/To 4 3
REC AMP
CN1
CN1
GND(FMA)
FMA (CH-1)
LP CH2 REC FM
FMA(COMMON)
LP CH-1 REC FM
FMA (CH-2)
SP CH-2 REC FM
NC
SP CH-1 REC FM
DRUM FF2
HEAD SELECT
SPECIAL PB
SWD5V
LP FM
INS/REC
SP FM
INS/REC 5V
GND
(Page 3-75)
IC1
TA8609F
INPUT SELECT DECODER
CH1 FEEDBACK AMP
SWITCHING PULSE
SP CH1 AMP
CH2 FEEDBACK AMP
SWITCHING SERVO
SP CH2 AMP
CH1\CH2 CH1/CH2
LP CH1 AMP
CH1 FEEDBACK AMP
LP CH2 AMP
CH2 FEEDBACK AMP
VCC
GND
NC
S1
S2
S3
S4
R1
R2
R3
R4
L5 100
C25 0.01
C24 47/6.3
Q9
Q10
R24 1K
R25 3.3K
R17 HEAD RESON SP CH-2
R17 1.5K
C22 1/50
L3 10
R18 390
C23 0.01
C21 100P
R16 10K
L4 12
R15 1.5K
R15 HEAD RESON LP CH1
R23 560
C34 0.01
C20 1/50
R26 1K
R27 3.3K
R14 1.5K
R14 HEAD RESON LP CH2
L2 12
R13 390
C18 0.01
C19 1/50
CN2
NC
NC
NC
Q9, Q10
2SC2412K
REC 6.0 Vp-p
PB 0.4 Vp-p

6

## 3.36 PRE AMP CIRCUIT BOARD

5

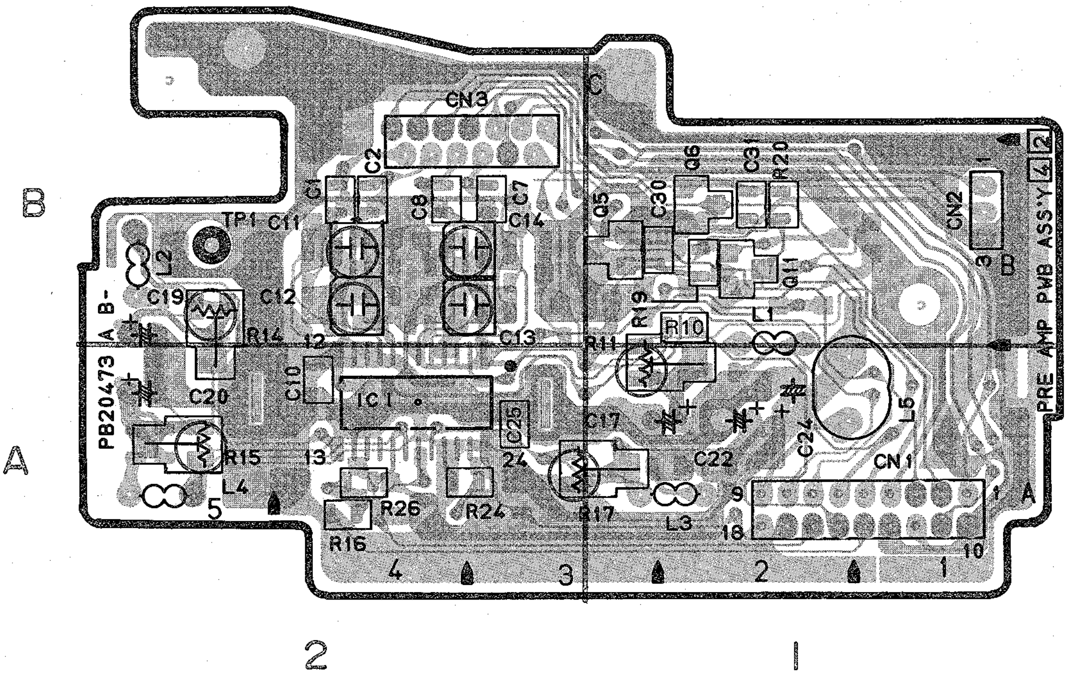
– Front –
(A)


PB20473-01-03
PRE AMP PWB
CN3
CN2
CN1
D1
D2
Q1
Q2
Q3
Q4
Q7
Q8
Q9
Q10
Q12
Q13
Q14
C3
C4
C5
C6
C9
C15
C16
C17
C18
C19
C20
C21
C22
C23
C27
C32
C33
C34
R1
R2
R3
R4
R5
R6
R7
R8
R9
R12
R13
R18
R21
R22
R23
R25
R27
L1
L2
L3
L4
L5
A
B
1
2
3
4
5
9
10
18

4

3

– Rear –
(B)


PB20473 A B-
PRE AMP PWB ASS'Y 4 2
CN3
CN2
CN1
TP1
IC1
Q5
Q6
Q11
C1
C2
C7
C8
C10
C11
C12
C13
C14
C17
C19
C20
C22
C24
C25
C30
C31
R10
R11
R14
R15
R16
R17
R19
R20
R24
R26
L1
L2
L3
L4
L5
A
B
C
1
2
3
4
5
9
10
12
13
18
24

2

1

A | B | C

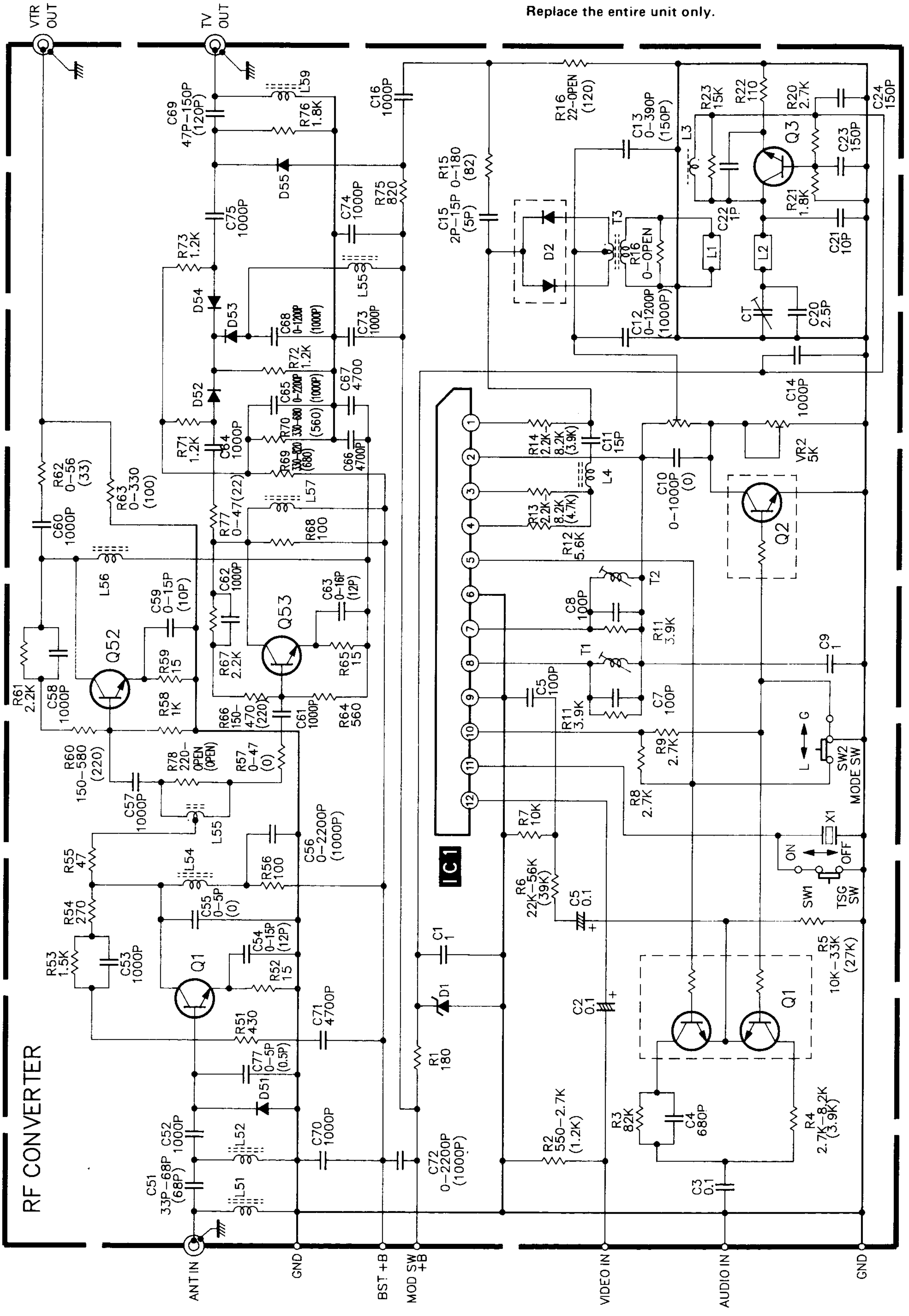
∘Address of chip parts

A-1D
Address
A : Discrete parts side
B : Chip parts side

| REF No. | LOCATION | REF No. | LOCATION |
|---|---|---|---|
| **IC** | | **CAPACITOR** | |
| IC1 | B-2A | C1 | B-2B |
| | | C2 | B-2B |
| **TRANSISTOR** | | C3 | A-2B |
| Q1 | A-2B | C4 | A-2B |
| Q2 | A-2B | C6 | A-2B |
| Q3 | A-2B | C7 | B-2B |
| Q4 | A-2B | C8 | B-2B |
| Q5 | B-1B | C9 | A-2B |
| Q6 | B-1B | C10 | B-2A |
| Q7 | A-2B | C11 | B-2B |
| Q8 | A-1B | C12 | B-2B |
| Q9 | A-2A | C13 | B-2B |
| Q10 | A-2A | C14 | B-2B |
| Q11 | B-1B | C15 | A-2A |
| Q12 | A-1B | C16 | A-1A |
| Q13 | A-1B | C18 | A-2B |
| Q14 | A-1B | C21 | A-2A |
| | | C23 | A-1A |
| **DIODE** | | C25 | B-2A |
| | | C30 | B-1B |
| D1 | A-1B | C31 | B-1B |
| D2 | A-1B | C32 | A-2B |
| | | C33 | A-1B |
| **RESISTOR** | | C34 | A-2A |
| R1 | A-2B | | |
| R2 | A-2A | | |
| R3 | A-2B | | |
| R4 | A-2A | | |
| R5 | A-2B | | |
| R6 | A-2B | | |
| R7 | A-2A | | |
| R8 | A-2A | | |
| R9 | A-2A | | |
| R10 | A-1A | | |
| R11 | B-1A | | |
| R12 | B-1A | | |
| R13 | A-2A | | |
| R14 | B-2A | | |
| R15 | B-2A | | |
| R16 | B-2A | | |
| R17 | B-1A | | |
| R18 | A-1A | | |
| R19 | B-1B | | |
| R20 | B-1B | | |
| R21 | A-1A | | |
| R22 | A-1B | | |
| R23 | A-2A | | |
| R24 | B-2A | | |
| R25 | A-2A | | |
| R26 | B-2A | | |
| R27 | A-2A | | |

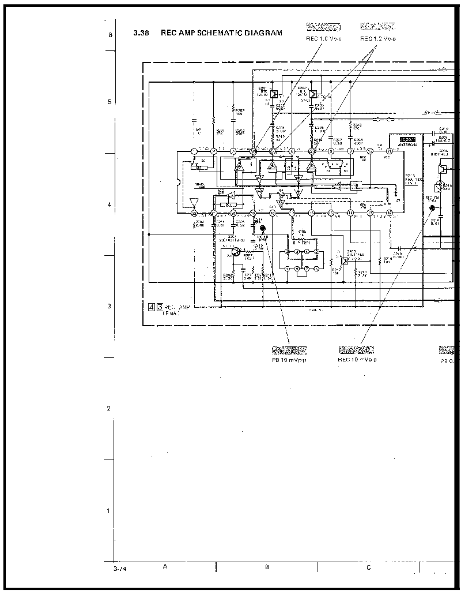
## 3.37 RF CONVERTER SCHEMATIC DIAGRAM

NOTES: 1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

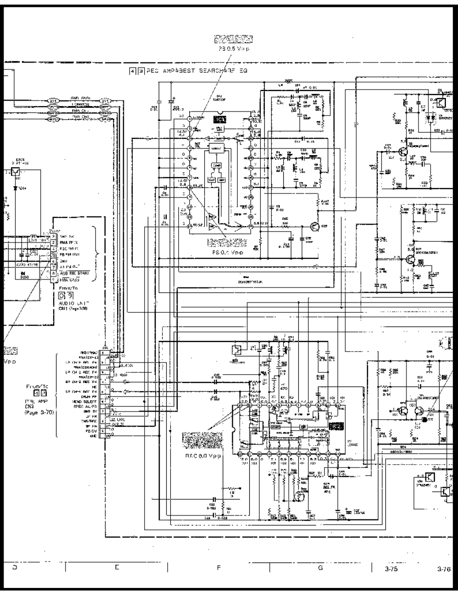


VTR OUT
TV OUT
RF CONVERTER
ANT IN
GND
BST +B
MOD SW +B
VIDEO IN
AUDIO IN
GND
C69 47P–150P (120P)
L59
R76 1.8K
C16 1000P
R16 22–OPEN (120)
C13 0–390P (150P)
R23 15K
R22 110
R20 2.7K
C24 150P
L3
Q3
C23 150P
D55
C75 1000P
C74 1000P
R75 820
R15 0–180 (82)
C15 2P–15P (5P)
D2
T3
R16 0–OPEN
C22 1P
L1
L2
R21 1.8K
C21 10P
R73 1.2K
L55
D54
D53
C68 0–1200P (1000P)
C73 1000P
C12 0–1200P (1000P)
CT
C20 2.5P
D52
R72 1.2K
C65 0–2200P (1000P)
C67 4700
C14 1000P
R71 1.2K
C64 1000P
R70 330–680 (560)
R69 330–820 (680)
C66 4700P
R14 2.2K–8.2K (3.9K)
C11 15P
VR2 5K
R62 0–56 (33)
R63 0–330 (100)
R77 0–47(22)
L57
R68 100
C10 0–1000P (0)
L4
R13 2.2K–8.2K (4.7K)
Q2
C60 1000P
L56
C62 1000P
R12 5.6K
T2
C59 0–15P (10P)
Q53
C63 0–16P (12P)
C8 100P
R11 3.9K
Q52
R59 15
R67 2.2K
R65 15
T1
C9 1
R61 2.2K
C58 1000P
R58 1K
R66 150–470 (220)
C61 1000P
R64 560
C5 100P
C7 100P
R11 3.9K
R60 150–580 (220)
R78 220–OPEN (OPEN)
R57 0–47 (0)
R9 2.7K
G
L
SW2 MODE SW
C57 1000P
L55
C56 0–2200P (1000P)
R8 2.7K
R7 10K
X1
R55 47
L54
R56 100
IC1
ON
OFF
R54 270
C55 0–5P (0)
R6 22K–56K (39K)
C5 0.1
SW1 TSG SW
C1 1
R53 1.5K
C53 1000P
C54 0–15P (12P)
R52 15
R5 10K–33K (27K)
Q1
D1
C2 0.1
Q1
R51 430
C71 4700P
R1 180
C77 0–5P (0.5P)
D51
C52 1000P
L52
C70 1000P
C72 0–2200P (1000P)
R2 550–2.7K (1.2K)
R3 82K
C4 680P
R4 2.7K–8.2K (3.9K)
C51 33P–68P (68P)
L51
C3 0.1
1
2
3
4
5
6
7
8
9
10
11
12
H
I
J
K

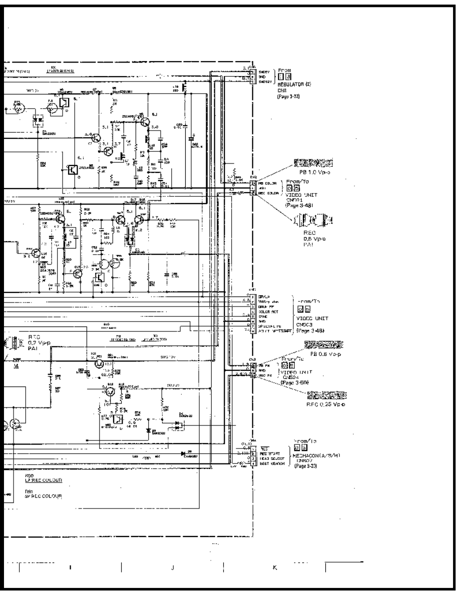
P3-74,75,76-a


3.38 REC AMP SCHEMATIC DIAGRAM
REC 1.0 Vp-p
REC 1.2 Vp-p
PB 10 mVp-p
PB 0.5 Vp-p
A
B
C
3-74

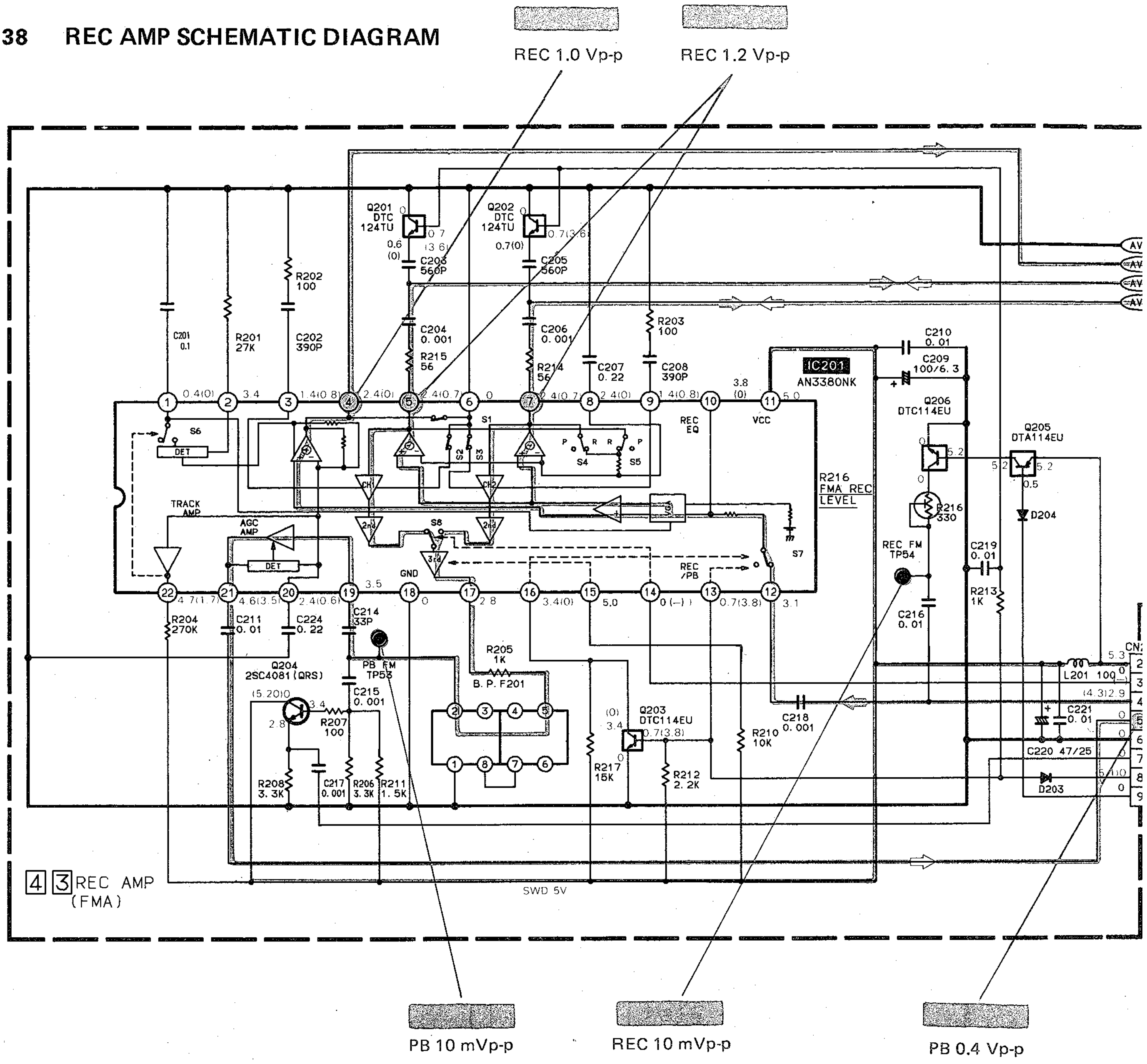
P3-74,75,76-b


PB 0.5 Vp-p
REC AMP&BEST SEARCH&PF EQ
PB 0.5 Vp-p
REC 0.9 Vp-p
D
E
F
G
3-75

P3-74,75,76-c

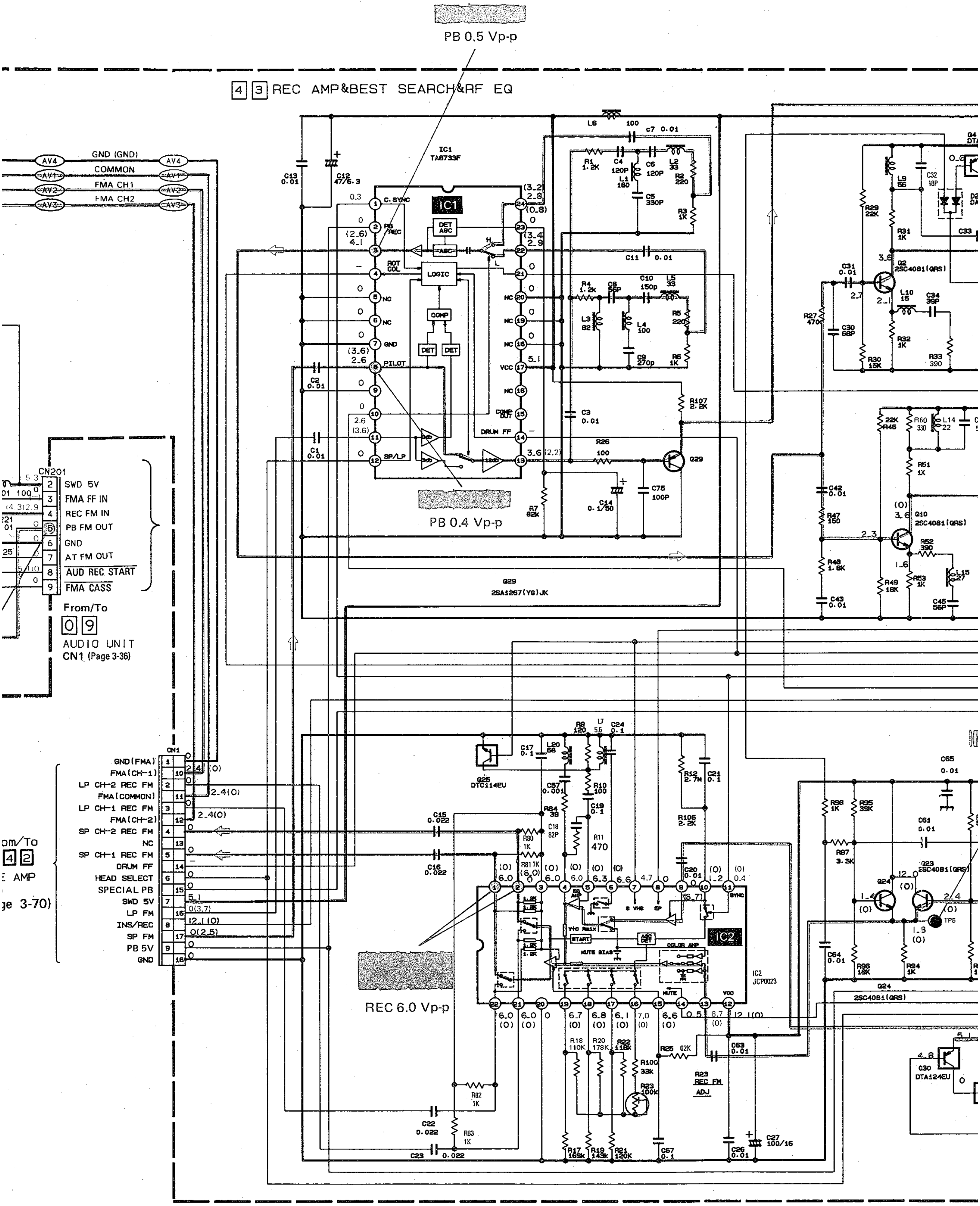

REGULATOR
PB 1.0 Vp-p
VIDEO UNIT
REC 0.6 Vp-p
VIDEO UNIT
PB 0.6 Vp-p
REC 0.35 Vp-p
MECHACON
3-76
I
J
K

## 3.38 REC AMP SCHEMATIC DIAGRAM

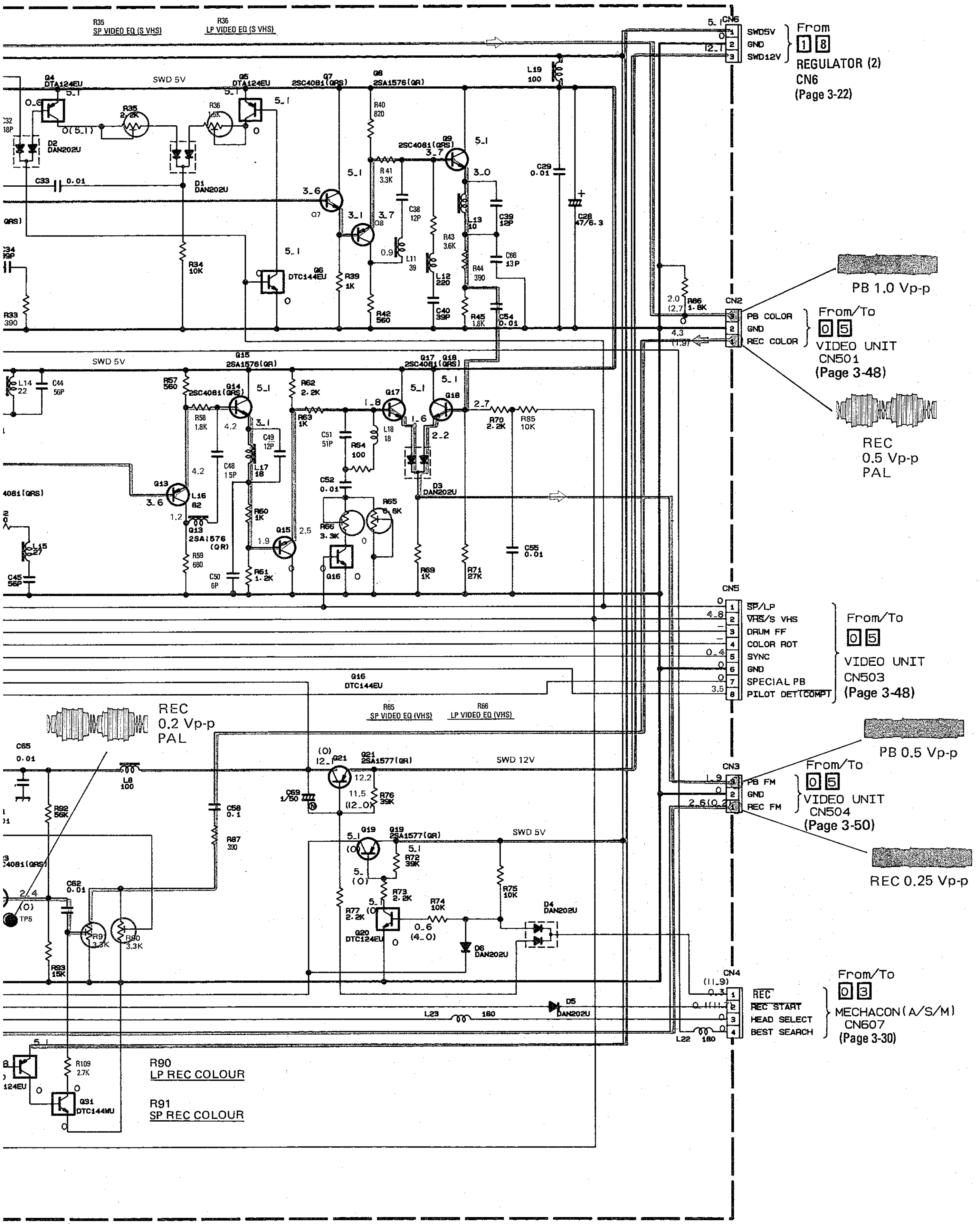


REC 1.0 Vp-p
REC 1.2 Vp-p
Q201 DTC 124TU
Q202 DTC 124TU
C203 560P
C205 560P
C204 0.001
C206 0.001
R215 56
R214 56
R202 100
R203 100
C201 0.1
R201 27K
C202 390P
C207 0.22
C208 390P
C210 0.01
C209 100/6.3
IC201 AN3380NK
Q206 DTC114EU
Q205 DTA114EU
D204
R216 330
R216 FMA REC LEVEL
REC EQ
VCC
S1
S2
S3
S4
S5
S6
S7
S8
DET
TRACK AMP
AGC AMP
CH1
CH2
GND
REC /PB
REC FM TP54
C219 0.01
R213 1K
C216 0.01
R204 270K
C211 0.01
C224 0.22
C214 33P
PB FM TP53
Q204 2SC4081 (QRS)
C215 0.001
R207 100
R208 3.3K
C217 0.001
R206 3.3K
R211 1.5K
R205 1K
B.P.F201
Q203 DTC114EU
R217 15K
R212 2.2K
R210 10K
C218 0.001
L201 100
C221 0.01
C220 47/25
D203
CN3
AV
4 3 REC AMP (FMA)
SWD 5V
PB 10 mVp-p
REC 10 mVp-p
PB 0.4 Vp-p
6
5
4
3
2
1
A
B
C
D

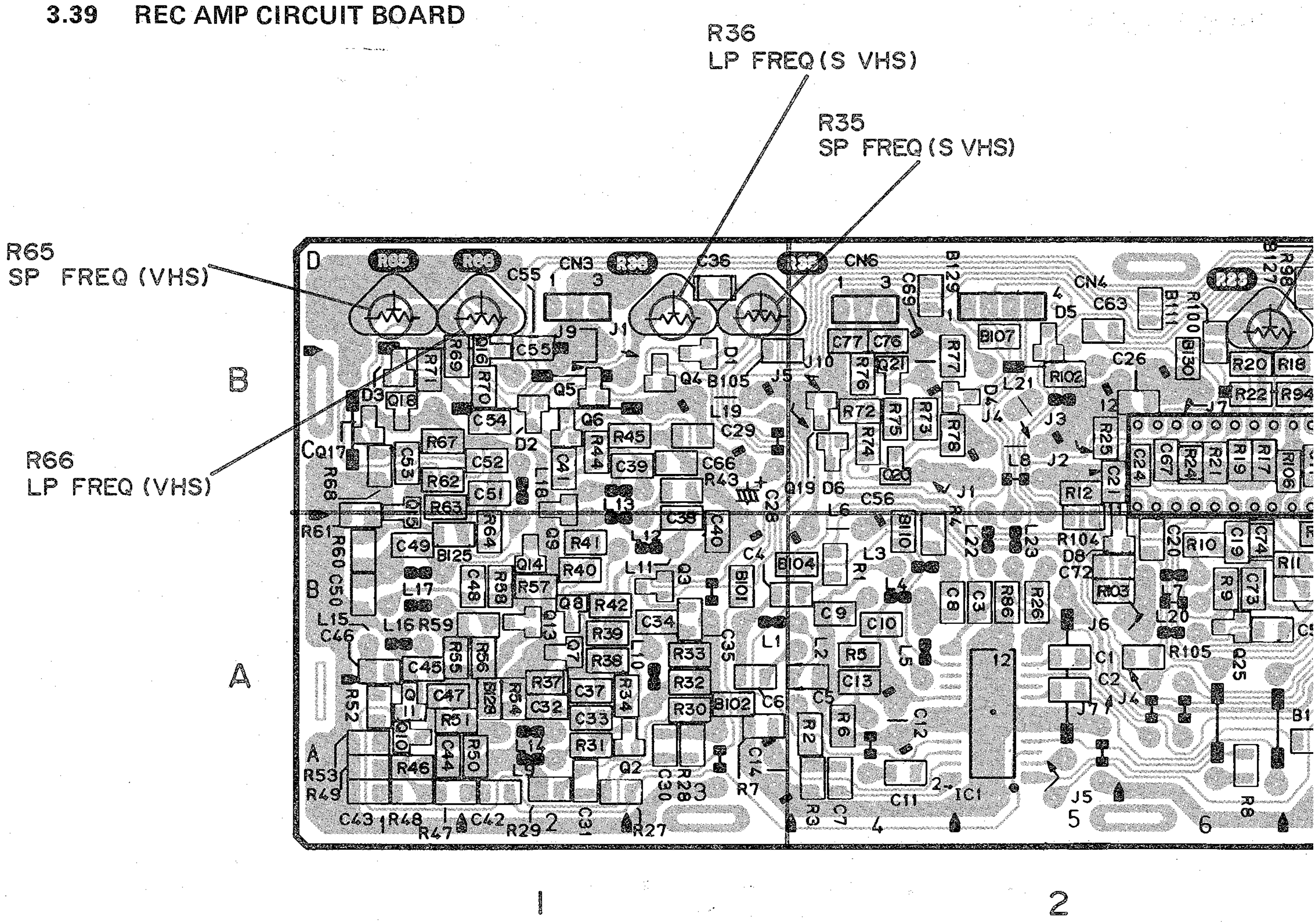
From/To
4 2
PRE AMP
CN3
(Page 3-70)



PB 0.5 Vp-p
4 3 REC AMP&BEST SEARCH&RF EQ
IC1 TA8733F
C.SYNC
PB REC
ROT COL
NC
GND
PILOT
SP/LP
DRUM FF
COMP OUT
VCC
DET ASC
ASC
LOGIC
COMP
DET
Q29 2SA1267(YG)JK
Q2 2SC4081(QRS)
Q10 2SC4081(QRS)
PB 0.4 Vp-p
GND (GND)
COMMON
FMA CH1
FMA CH2
AV4
AV1
AV2
AV3
CN201
SWD 5V
FMA FF IN
REC FM IN
PB FM OUT
GND
AT FM OUT
AUD REC START
FMA CASS
From/To
0 9
AUDIO UNIT
CN1 (Page 3-36)
CN1
GND(FMA)
FMA(CH-1)
LP CH-2 REC FM
FMA(COMMON)
LP CH-1 REC FM
FMA(CH-2)
SP CH-2 REC FM
NC
SP CH-1 REC FM
DRUM FF
HEAD SELECT
SPECIAL PB
SWD 5V
LP FM
INS/REC
SP FM
PB 5V
GND
om/To
4 2
E AMP
ge 3-70)
Q25 DTC114EU
IC2
IC2 JCP0023
REC 6.0 Vp-p
R23 REC FM ADJ
Q23 2SC4081(QRS)
Q24 2SC4081(QRS)
Q30 DTA124EU
TP5


R35
SP VIDEO EQ (S VHS)
R36
LP VIDEO EQ (S VHS)
CN6
SWD5V
GND
SWD12V
From
1 8
REGULATOR (2)
CN6
(Page 3-22)
Q4
DTA124EU
SWD 5V
Q5
DTA124EU
Q7
2SC4081(QRS)
Q8
2SA1576(QR)
L19
100
R35
2.2K
R36
1.5K
D2
DAN202U
D1
DAN202U
C33
0.01
R40
820
Q9
2SC4081(QRS)
R41
3.3K
C38
12P
C29
0.01
C28
47/6.3
L13
10
C39
12P
R43
3.6K
C66
13P
L11
39
L12
220
R44
390
R34
10K
Q6
DTC144EU
R39
1K
R42
560
C40
39P
R45
1.8K
C54
0.01
R33
390
R86
1.8K
CN2
PB COLOR
GND
REC COLOR
PB 1.0 Vp-p
From/To
0 5
VIDEO UNIT
CN501
(Page 3-48)
REC
0.5 Vp-p
PAL
SWD 5V
Q15
2SA1576(QR)
Q17 Q18
2SC4081(QRS)
L14
22
C44
56P
R57
560
Q14
2SC4081(QRS)
R62
2.2K
R58
1.8K
C49
12P
R63
1K
C51
51P
L18
18
R70
2.2K
R85
10K
C48
15P
L17
18
R64
100
Q13
L16
82
C52
0.01
D3
DAN202U
R65
6.8K
R60
1K
R66
3.3K
Q13
2SA1576
(QR)
Q15
L15
27
R59
680
C50
6P
R61
1.2K
Q16
R69
1K
R71
27K
C55
0.01
C45
56P
CN5
SP/LP
VHS/S VHS
DRUM FF
COLOR ROT
SYNC
GND
SPECIAL PB
PILOT DET(COMP)
From/To
0 5
VIDEO UNIT
CN503
(Page 3-48)
Q16
DTC144EU
R65
SP VIDEO EQ (VHS)
R66
LP VIDEO EQ (VHS)
REC
0.2 Vp-p
PAL
C65
0.01
L8
100
Q21
2SA1577(QR)
SWD 12V
C69
1/50
R76
39K
CN3
PB FM
GND
REC FM
PB 0.5 Vp-p
From/To
0 5
VIDEO UNIT
CN504
(Page 3-50)
REC 0.25 Vp-p
R92
56K
C58
0.1
R87
390
Q19
2SA1577(QR)
SWD 5V
R72
39K
C62
0.01
R73
2.2K
R74
10K
R75
10K
D4
DAN202U
TP5
R91
3.3K
R90
3.3K
R77
2.2K
Q20
DTC124EU
D6
DAN202U
R93
15K
CN4
REC
REC START
HEAD SELECT
BEST SEARCH
From/To
0 3
MECHACON (A/S/M)
CN607
(Page 3-30)
D5
DAN202U
L23
180
L22
180
R109
2.7K
Q31
DTC144WU
R90
LP REC COLOUR
R91
SP REC COLOUR
I
J
K

## 3.39 REC AMP CIRCUIT BOARD

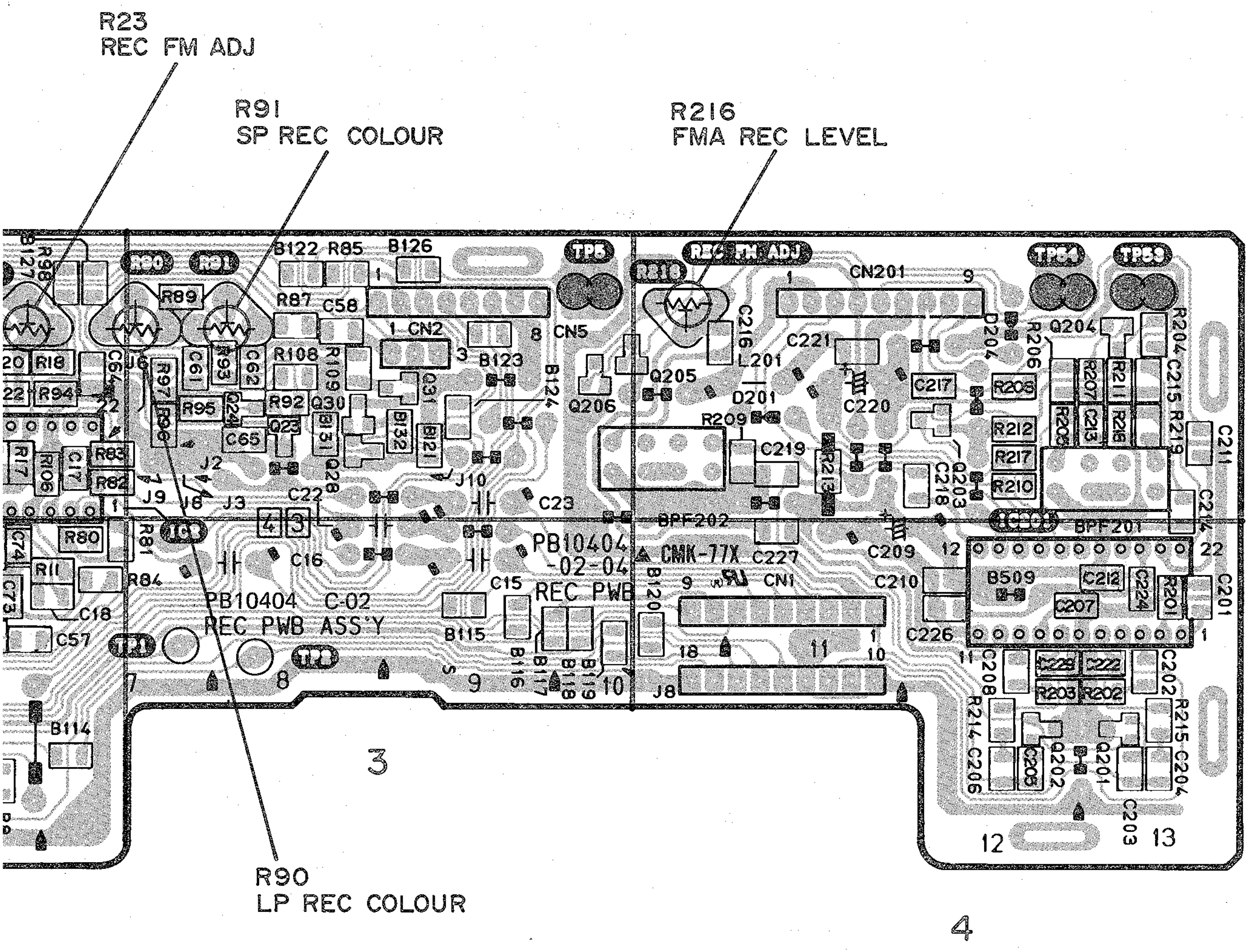


● Address of chip parts

A-1 — Address

- VIDEO REC SECTION -

| REF. No. | LOCATION | REF. No. | LOCATION | REF. No. | LOCATION | REF. No. | LOCATIO |
|---|---|---|---|---|---|---|---|
| **IC** | | **DIODE** | | **RESISTOR** | | **RESISTOR** | |
| IC1 | A-2 | D1 | B-1 | R25 | B-2 | R59 | A-1 |
| | | D2 | B-1 | R26 | A-2 | R60 | A-1 |
| | | D3 | B-1 | R27 | A-1 | R61 | A-1 |
| **TRANSISTOR** | | D4 | B-2 | R29 | A-1 | R62 | B-1 |
| Q2 | A-1 | D5 | B-2 | R30 | A-1 | R63 | B-1 |
| Q4 | B-1 | D6 | B-2 | R31 | A-1 | R64 | A-1 |
| Q5 | B-1 | | | R32 | A-1 | R69 | B-1 |
| Q6 | B-1 | | | R33 | A-1 | R70 | B-1 |
| Q7 | A-1 | **RESISTOR** | | R34 | A-1 | R71 | B-1 |
| Q8 | A-1 | R1 | A-2 | R39 | A-1 | R72 | B-2 |
| Q9 | A-1 | R2 | A-2 | R40 | A-1 | R73 | B-2 |
| Q10 | A-1 | R3 | A-2 | R41 | A-1 | R74 | B-2 |
| Q13 | A-1 | R4 | A-2 | R42 | A-1 | R75 | B-2 |
| Q14 | A-1 | R5 | A-2 | R43 | B-1 | R76 | B-2 |
| Q15 | A-1 | R6 | A-2 | R44 | B-1 | R77 | B-2 |
| Q16 | B-1 | R7 | A-1 | R45 | B-1 | R80 | A-2 |
| Q17 | B-1 | R9 | A-2 | R46 | A-1 | R81 | A-2 |
| Q18 | B-1 | R10 | A-2 | R47 | A-1 | R82 | B-2 |
| Q19 | B-2 | R11 | A-2 | R48 | A-1 | R83 | B-2 |
| Q20 | B-2 | R12 | B-2 | R49 | A-1 | R84 | A-2 |
| Q21 | B-2 | R17 | B-2 | R50 | A-1 | R85 | B-3 |
| Q23 | B-3 | R18 | B-2 | R51 | A-1 | R86 | B-2 |
| Q24 | B-3 | R19 | B-2 | R52 | A-1 | R87 | B-3 |
| Q25 | A-2 | R20 | B-2 | R53 | A-1 | R92 | B-3 |
| Q30 | B-3 | R21 | B-2 | R57 | A-1 | R93 | B-3 |
| Q31 | B-3 | R22 | B-2 | R58 | A-1 | R94 | B-3 |


R23
REC FM ADJ
R91
SP REC COLOUR
R216
FMA REC LEVEL
R90
LP REC COLOUR
PB10404 C-02
REC PWB ASS'Y
PB10404
-02-04
REC PWB
CMK-77X
CN201
BPF201
BPF202
3
4
12
13

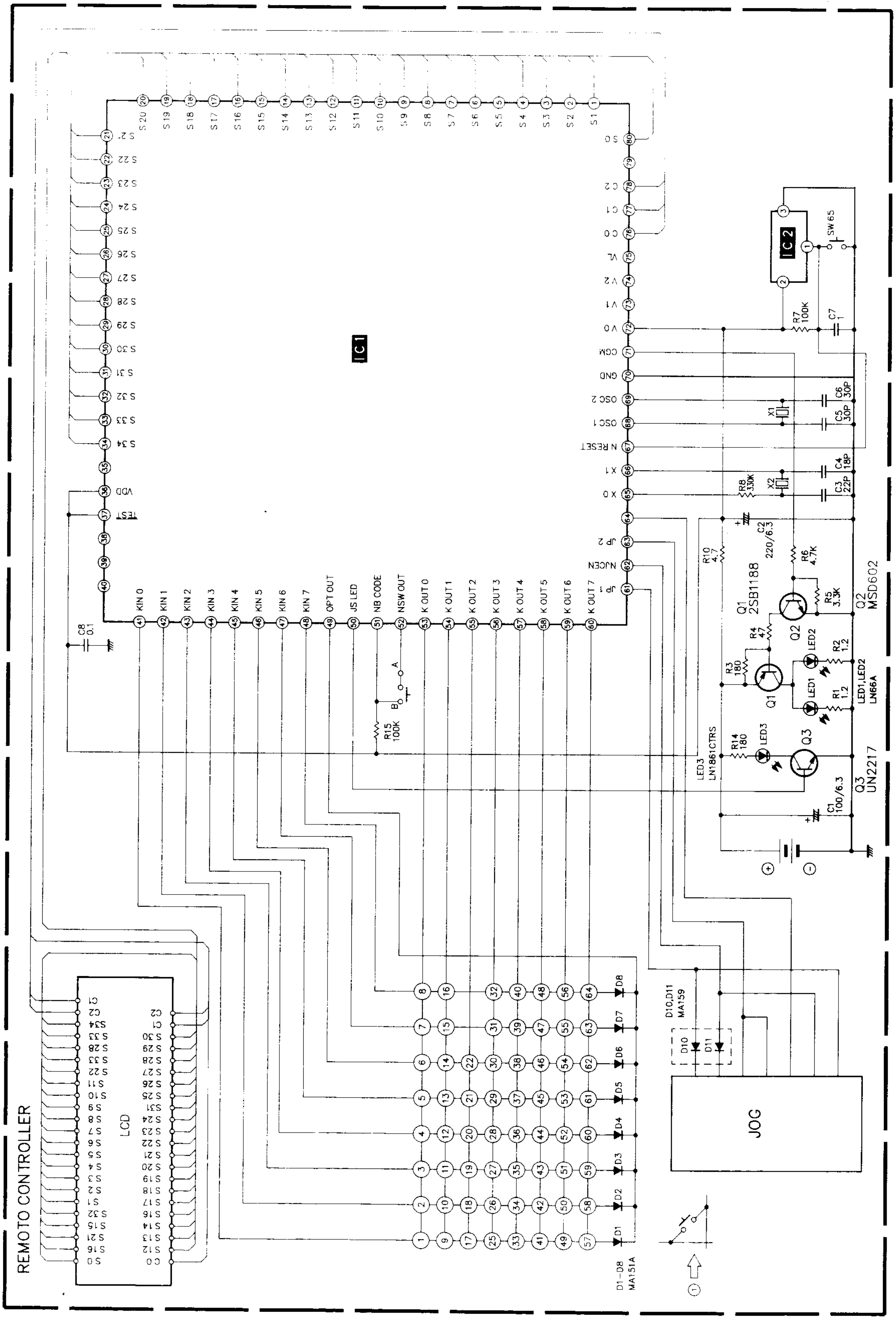
| OCATION | REF. No. | LOCATION | REF. No. | LOCATION | REF. No. | LOCATION |
|---|---|---|---|---|---|---|
| R | RESISTOR | | | | CAPACITOR | |
| A-1 | R95 | B-3 | C24 | B-2 | C63 | B-2 |
| A-1 | R96 | B-3 | C26 | B-2 | C64 | B-2 |
| A-1 | R97 | B-3 | C29 | B-1 | C65 | B-3 |
| B-1 | R98 | B-2 | C30 | A-1 | C66 | B-1 |
| B-1 | R100 | B-2 | C31 | A-1 | C67 | B-2 |
| A-1 | R109 | B-3 | C32 | A-1 | | |
| B-1 | | | C33 | A-1 | | |
| B-1 | | | C34 | A-1 | | |
| B-1 | CAPACITOR | | C38 | A-1 | | |
| B-2 | C1 | A-2 | C39 | B-1 | | |
| B-2 | C2 | A-2 | C40 | A-1 | | |
| B-2 | C3 | A-2 | C42 | A-1 | | |
| B-2 | C4 | A-1 | C43 | A-1 | | |
| B-2 | C5 | A-2 | C44 | A-1 | | |
| B-2 | C6 | A-1 | C45 | A-1 | | |
| A-2 | C7 | A-2 | C48 | A-1 | | |
| A-2 | C8 | A-2 | C49 | A-1 | | |
| B-2 | C9 | A-2 | C50 | A-1 | | |
| B-2 | C10 | A-2 | C51 | B-1 | | |
| A-2 | C11 | A-2 | C52 | B-1 | | |
| B-3 | C13 | A-2 | C54 | B-1 | | |
| B-2 | C17 | B-2 | C55 | B-1 | | |
| B-3 | C18 | A-2 | C57 | A-2 | | |
| B-3 | C19 | A-2 | C58 | B-3 | | |
| B-3 | C20 | A-2 | C61 | B-3 | | |
| B-3 | C21 | B-2 | C62 | B-3 | | |

- FMA P/R SECTION -

| REF. No. | LOCATION | REF. No. | LOCATION |
|---|---|---|---|
| TRANSISTOR | | CAPACITOR | |
| Q201 | A-4 | C201 | A-4 |
| Q202 | A-4 | C202 | A-4 |
| Q203 | B-4 | C203 | A-4 |
| Q204 | B-4 | C204 | A-4 |
| Q205 | B-3 | C205 | A-4 |
| Q206 | B-3 | C206 | A-4 |
| | | C207 | A-4 |
| | | C208 | A-4 |
| | | C210 | A-4 |
| RESISTOR | | C211 | B-4 |
| R201 | A-4 | C214 | A-4 |
| R202 | A-4 | C215 | B-4 |
| R203 | A-4 | C216 | B-4 |
| R204 | B-4 | C217 | B-4 |
| R205 | B-4 | C218 | B-4 |
| R206 | B-4 | C219 | B-4 |
| R207 | B-4 | C221 | B-4 |
| R208 | B-4 | C224 | A-4 |
| R210 | B-4 | | |
| R211 | B-4 | | |
| R212 | B-4 | | |
| R213 | B-4 | | |
| R214 | A-4 | | |
| R215 | A-4 | | |
| R217 | B-4 | | |

## 3.40 REMOTE CONTROL SCHEMATIC DIAGRAM

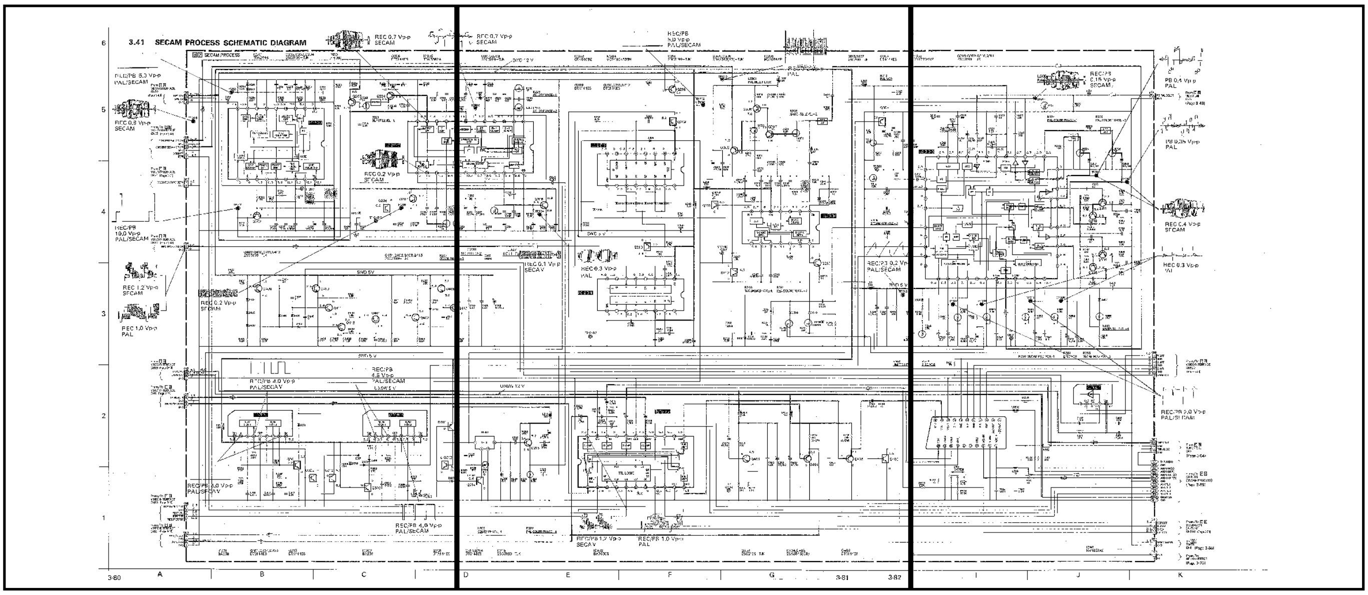
NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference. Avoid replacing individual parts. Replace the entire unit only.



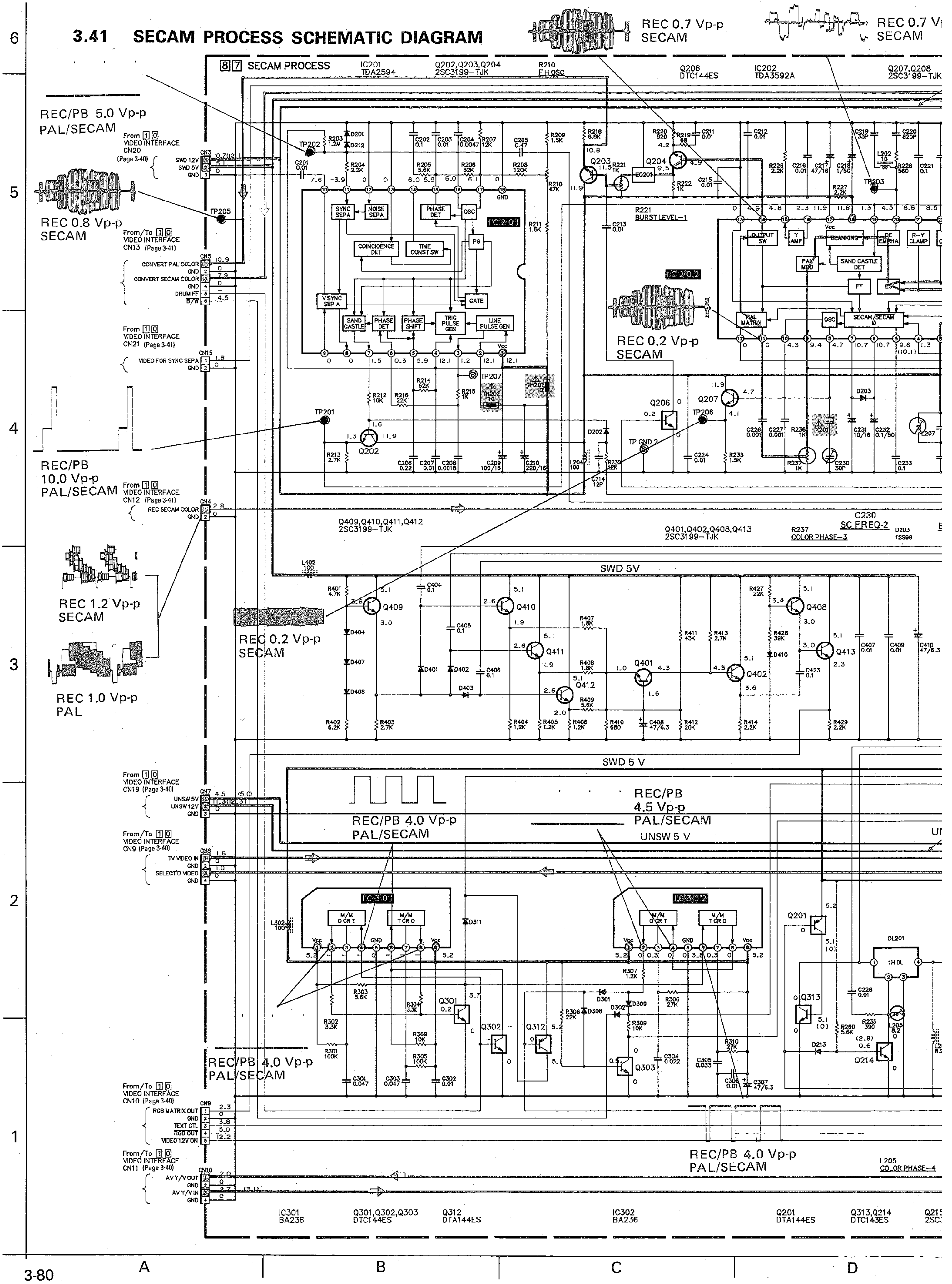
IC1
IC2
SW65
REMOTO CONTROLLER
LCD
JOG
KIN 0
KIN 1
KIN 2
KIN 3
KIN 4
KIN 5
KIN 6
KIN 7
OPT OUT
JS LED
NB CODE
NSW OUT
K OUT 0
K OUT 1
K OUT 2
K OUT 3
K OUT 4
K OUT 5
K OUT 6
K OUT 7
VDD
TEST
JP 1
NJCEN
JP 2
X 0
X 1
N RESET
OSC 1
OSC 2
GND
COM
V 0
V 1
V 2
VL
C 0
C 1
C 2
R15 100K
R7 100K
C7 1
C6 30P
C5 30P
X1
C4 18P
C3 22P
R8 330K
X2
C2 220/6.3
R10 4.7
R6 4.7K
R5 3.3K
Q1 2SB1188
Q2 MSD602
R4 47
R3 180
R2 1.2
R1 1.2
LED1
LED2
LED1,LED2 LN66A
LED3 LN1861CTRS
R14 180
LED3
Q3 UN2217
C1 100/6.3
C8 0.1
D1–D8 MA151A
D10,D11 MA159
D10
D11
A
B

| Key No. | Key NAME |
|---|---|
| 1 | TV STANDBY |
| 2 | TV/AUX |
| 3 | TV PROG. ^ |
| 4 | TV PROG. v |
| 5 | TV VOL + |
| 6 | TV VOL – |
| 7 | 0 |
| 8 | 1 |
| 9 | 2 |
| 10 | 3 |
| 11 | 4 |
| 12 | 5 |
| 13 | 6 |
| 14 | 7 |
| 15 | 8 |
| 16 | 9 |
| 17 | MARK |
| 18 | ERASE |
| 19 | A/B CODE |
| 20 | TV CODE |
| 21 | TRANS |
| 22 | CLOCK ADJ |
| 23 | |
| 24 | |
| 25 | REC |
| 26 | EDIT MODE |
| 27 | EDIT STANDBY |
| 28 | EDIT START |
| 29 | JOG/SHUTTLE |
| 30 | VPS |
| 31 | SP/LP |
| 32 | SET + |
| 33 | SET – |
| 34 | DISPAY |
| 35 | OPERATE |
| 36 | EJECT |
| 37 | INDEX |
| 38 | INTPO |
| 39 | SKIP SEARCH |
| 40 | V. SEARCH << |
| 41 | PAUSE |
| 42 | V. SEARCH >> |
| 43 | REW |
| 44 | PLAY |
| 45 | F.F. |
| 46 | STOP |
| 47 | TV/VTR |
| 48 | TIMER |
| 49 | TIMER PAGE |
| 50 | CANC. |
| 51 | PROGE. |
| • 52 | MENU/TEXT |
| 53 | SOUND MENU |
| 54 | LARGE/NORMAL |
| 55 | SELECT |
| 56 | OSD |
| 57 | SCENE CTL |
| 58 | C. MEMORY |
| 59 | C. RESET |
| 60 | CH ^ |
| 61 | CH v |
| 62 | Z. RETURN |
| 63 | L. SELECT |
| 64 | A. TRACKING |

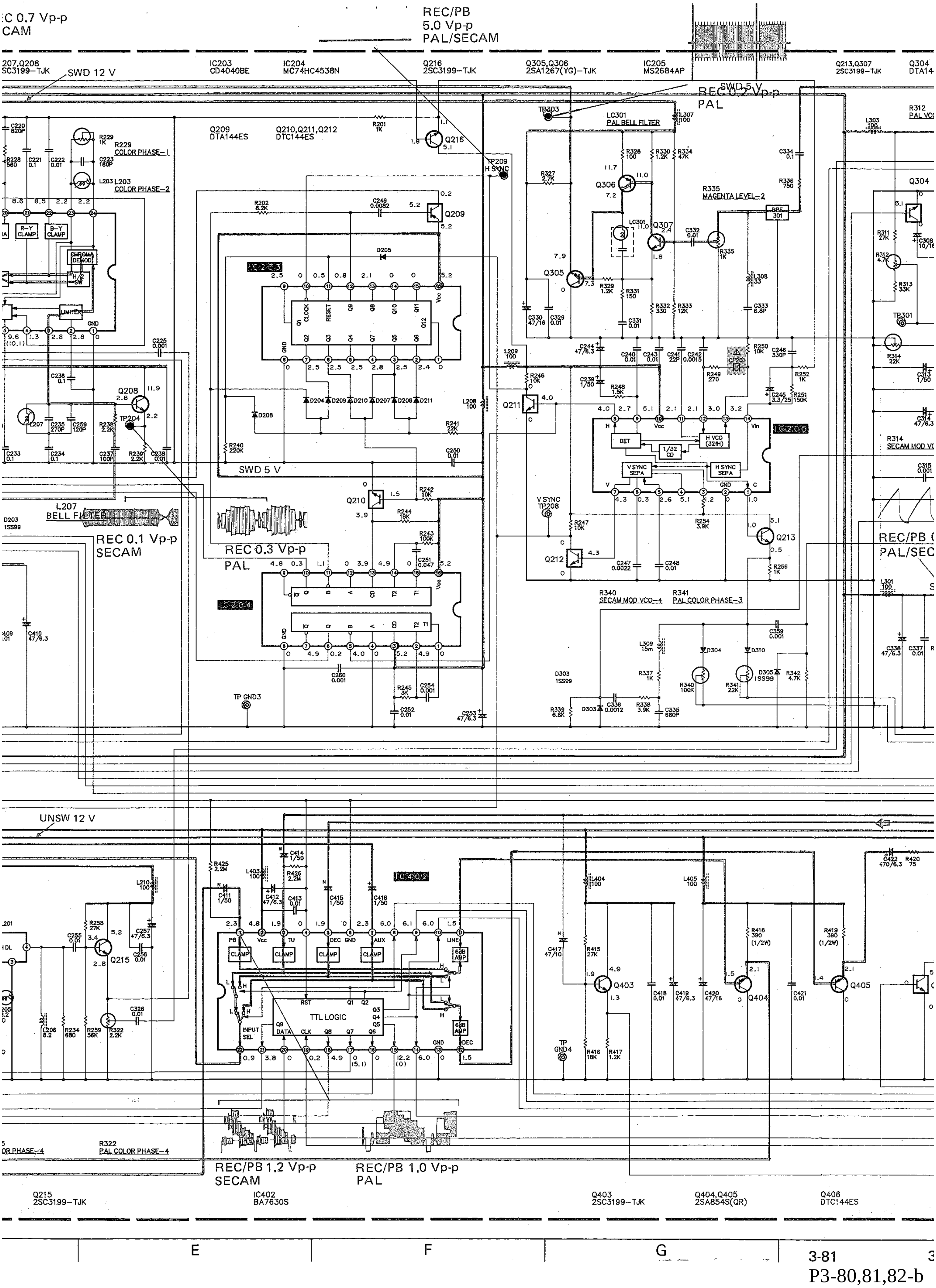
P3-80,81,82-a P3-80,81,82-b P3-80,81,82-c

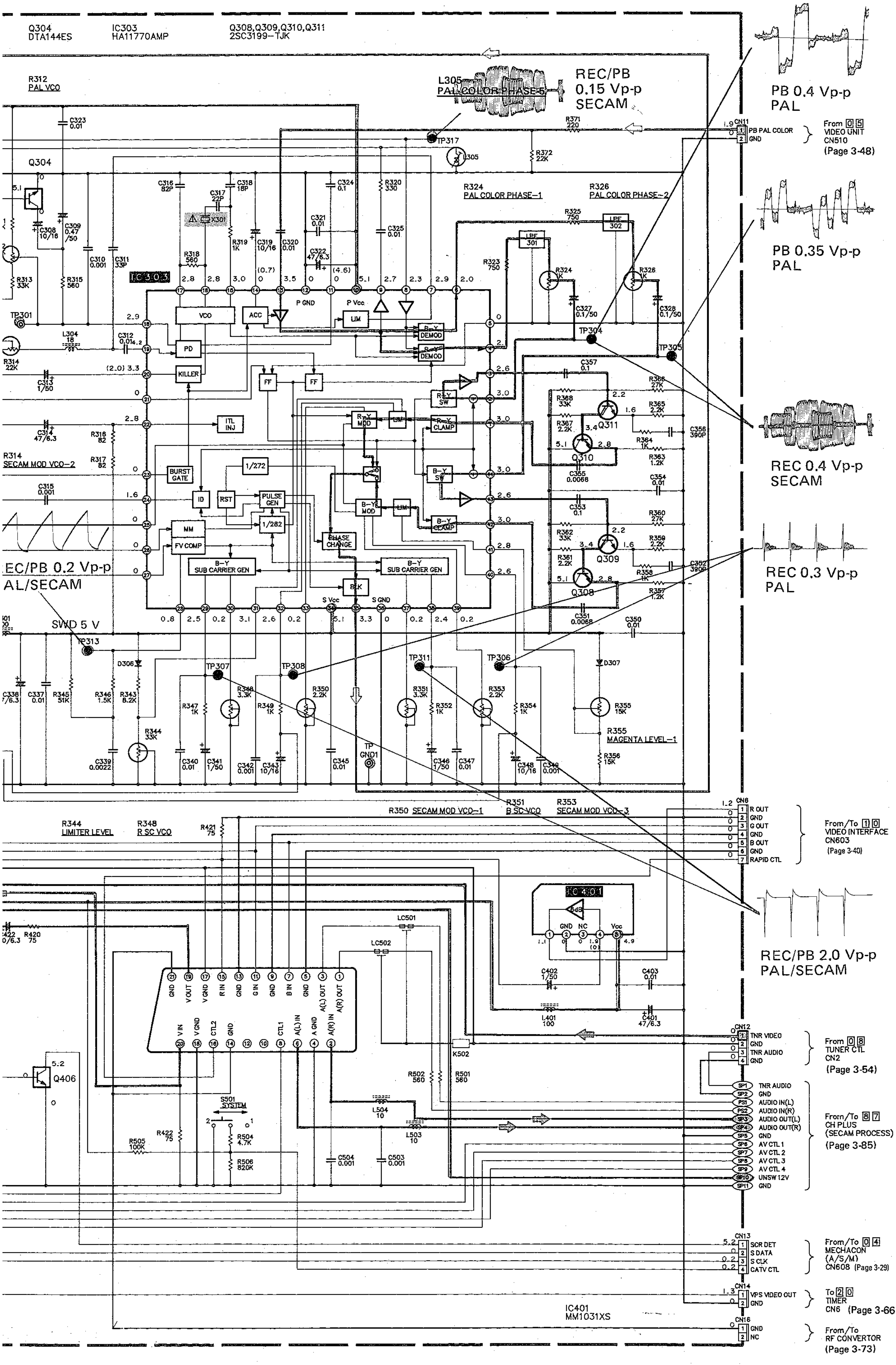

3.41 SECAM PROCESS SCHEMATIC DIAGRAM
SECAM PROCESS
REC 0.7 Vp-p SECAM
REC/PB 5.0 Vp-p PAL/SECAM
REC 0.8 Vp-p SECAM
REC 0.2 Vp-p SECAM
REC/PB 10.0 Vp-p PAL/SECAM
REC 1.2 Vp-p SECAM
REC 1.0 Vp-p PAL
REC/PB 4.0 Vp-p PAL/SECAM
REC/PB 4.0 Vp-p PAL/SECAM
REC/PB 6.0 Vp-p PAL/SECAM
REC/PB 4.0 Vp-p PAL/SECAM
REC/PB 1.0 Vp-p PAL/SECAM
REC 0.1 Vp-p SECAM
REC 0.3 Vp-p PAL
REC/PB 1.2 Vp-p SECAM
REC/PB 1.0 Vp-p PAL
REC/PB 0.2 Vp-p PAL/SECAM
REC/PB 0.15 Vp-p SECAM
PB 0.4 Vp-p PAL
PB 0.3 Vp-p PAL
REC 0.4 Vp-p SECAM
REC 0.3 Vp-p PAL
REC/PB 2.0 Vp-p PAL/SECAM
6
5
4
3
2
1
A
B
C
D
E
F
G
I
J
K
3-80
3-81
3-82

## 3.41 SECAM PROCESS SCHEMATIC DIAGRAM

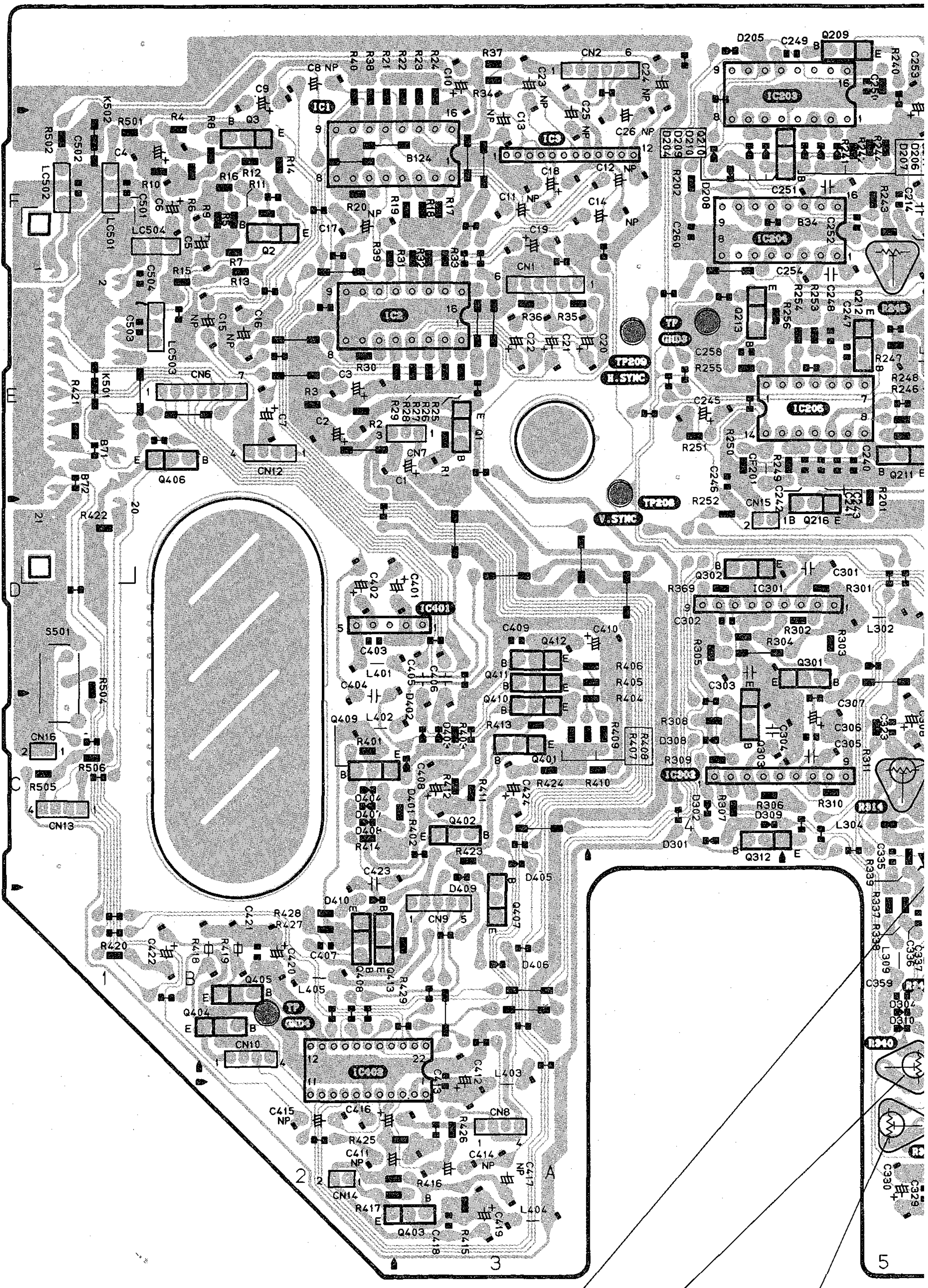


REC 0.7 Vp-p
SECAM
REC/PB 5.0 Vp-p
PAL/SECAM
REC 0.8 Vp-p
SECAM
REC/PB
10.0 Vp-p
PAL/SECAM
REC 1.2 Vp-p
SECAM
REC 1.0 Vp-p
PAL
REC 0.2 Vp-p
SECAM
REC/PB 4.0 Vp-p
PAL/SECAM
REC/PB
4.5 Vp-p
PAL/SECAM
87 SECAM PROCESS
IC201
TDA2594
Q202,Q203,Q204
2SC3199–TJK
R210
F.H OSC
Q206
DTC144ES
IC202
TDA3592A
Q207,Q208
2SC3199–TJK
From 10 VIDEO INTERFACE CN20 (Page 3-40)
SWD 12V
SWD 5V
GND
From/To 10 VIDEO INTERFACE CN13 (Page 3-41)
CONVERT PAL COLOR
CONVERT SECAM COLOR
DRUM FF
B/W
From 10 VIDEO INTERFACE CN21 (Page 3-41)
VIDEO FOR SYNC SEPA
From 10 VIDEO INTERFACE CN12 (Page 3-41)
REC SECAM COLOR
IC201
SYNC SEPA
NOISE SEPA
PHASE DET
OSC
COINCIDENCE DET
TIME CONST SW
PG
V SYNC SEP A
GATE
SAND CASTLE
PHASE DET
PHASE SHIFT
TRIG PULSE GEN
LINE PULSE GEN
TP201
TP202
TP203
TP205
TP206
TP207
TP GND 2
IC202
OUTPUT SW
Y AMP
BLANKING
DE EMPHA
R-Y CLAMP
PAL MOD
SAND CASTLE DET
FF
PAL MATRIX
OSC
SECAM/SECAM ID
R221
BURST LEVEL–1
C230
SC FREQ–2
R237
COLOR PHASE–3
D203
1SS99
Q409,Q410,Q411,Q412
2SC3199–TJK
Q401,Q402,Q408,Q413
2SC3199–TJK
SWD 5V
SWD 5 V
UNSW 5 V
From 10 VIDEO INTERFACE CN19 (Page 3-40)
UNSW 5V
UNSW 12V
From/To 10 VIDEO INTERFACE CN9 (Page 3-40)
TV VIDEO IN
SELECT'D VIDEO
IC301
IC302
M/M O CR T
M/M T CR O
1H DL
DL201
From/To 10 VIDEO INTERFACE CN10 (Page 3-40)
RGB MATRIX OUT
TEXT CTL
RGB OUT
VIDEO 12V ON
From/To 10 VIDEO INTERFACE CN11 (Page 3-40)
AV Y/V OUT
AV Y/V IN
L205
COLOR PHASE–4
IC301
BA236
Q301,Q302,Q303
DTC144ES
Q312
DTA144ES
IC302
BA236
Q201
DTA144ES
Q313,Q214
DTC143ES
6
5
4
3
2
1
A
B
C
D


C 0.7 Vp-p
CAM
REC/PB
5.0 Vp-p
PAL/SECAM
207,Q208
SC3199-TJK
SWD 12 V
IC203
CD4040BE
IC204
MC74HC4538N
Q216
2SC3199-TJK
Q305,Q306
2SA1267(YG)-TJK
IC205
MS2684AP
Q213,Q307
2SC3199-TJK
Q304
DTA14
SWD 5 V
REC 0.2 Vp-p
PAL
TP303
LC301
PAL BELL FILTER
L307
100
R312
PAL VCO
Q209
DTA144ES
Q210,Q211,Q212
DTC144ES
R201
1K
Q216
TP209
H SYNC
R229
COLOR PHASE-1
L203
COLOR PHASE-2
R327
2.7K
Q306
R328 100
R330 1.2K
R334 47K
C334 0.1
R336 750
R335
MAGENTA LEVEL-2
BPF 301
R202 8.2K
C249 0.0082
Q209
D205
IC203
CLOCK
RESET
Vcc
GND
R-Y CLAMP
B-Y CLAMP
CHROMA DEMOD
H/2 SW
LIMITER
GND
C225 0.001
Q208
TP204
L207
C235 270P
C259 120P
R238 2.2K
C233 0.1
C234 0.1
C237 100P
R239 2.2K
C238 0.01
R240 220K
D208
D204 D209 D210 D207 D206 D211
R241 22K
C250 0.01
L208 100
L209 100
R246 10K
Q211
SWD 5 V
LC301
Q307
C332 0.01
Q305
R329 1.2K
R331 150
R332 330
R333 12K
L308 33
C333 6.8P
C330 47/16
C329 0.01
C331 0.01
C244 47/6.3
C240 0.01
C243 0.01
C241 22P
C242 0.0015
CF201
R250 10K
C246 330P
R249 270
R252 1K
C239 1/50
R248 1.5K
C245 3.3/25
R251 150K
IC205
DET
1/32 CD
H VCO (32fH)
V SYNC SEPA
H SYNC SEPA
Vin
GND
Q304
R311 27K
C308 10/16
R312 4.7K
R313 33K
TP301
R314 22K
C313 1/50
C314 4.7/6.3
R314
SECAM MOD VCO
C315 0.001
L207
BELL FILTER
D203
1SS99
REC 0.1 Vp-p
SECAM
REC 0.3 Vp-p
PAL
Q210
R242 10K
R244 18K
R243 100K
C251 0.047
V SYNC
TP208
R247 10K
R254 3.9K
Q213
R256 1K
Q212
C247 0.0022
C248 0.01
REC/PB
PAL/SEC
IC204
C409 .01
C410 47/6.3
C260 0.001
R245 3K
C254 0.001
C252 0.01
C253 47/6.3
TP GND3
R340
SECAM MOD VCO-4
R341
PAL COLOR PHASE-3
L301
L309 15m
D304
D310
C359 0.001
R337 1K
R340 100K
R341 22K
D305 1SS99
R342 4.7K
C338 47/6.3
C337 0.01
D303 1SS99
R339 6.8K
D303
C336 0.0012
R338 3.9K
C335 680P
UNSW 12 V
R425 2.2M
L403 100
C414 1/50
R426 2.2M
C411 1/50
C412 47/6.3
C413 0.01
C415 1/50
C416 1/50
IC402
PB
Vcc
TU
DEC
GND
AUX
LINE
CLAMP
6dB AMP
TTL LOGIC
RST
Q1 Q2 Q3 Q4 Q5
Q9
DATA
CLK
Q8 Q7 Q6
INPUT SEL
GND
DEC
L210 100
L201
DL
R258 27K
C255 0.01
Q215
C257 47/6.3
C256 0.01
C326 0.01
L206 8.2
R234 680
R259 56K
R322 2.2K
L404 100
C417 47/10
R415 27K
Q403
C418 0.01
C419 47/6.3
C420 47/16
R416 18K
R417 1.2K
TP GND4
L405 100
R418 390 (1/2W)
Q404
C421 0.01
C422 470/6.3
R420 75
R419 390 (1/2W)
Q405
OR PHASE-4
R322
PAL COLOR PHASE-4
REC/PB 1.2 Vp-p
SECAM
REC/PB 1.0 Vp-p
PAL
Q215
2SC3199-TJK
IC402
BA7630S
Q403
2SC3199-TJK
Q404,Q405
2SA854S(QR)
Q406
DTC144ES
E
F
G


Q304
DTA144ES
IC303
HA11770AMP
Q308,Q309,Q310,Q311
2SC3199-TJK
R312
PAL VCO
L305
PAL COLOR PHASE-5
REC/PB
0.15 Vp-p
SECAM
PB 0.4 Vp-p
PAL
R371
220
R372
22K
TP317
L305
CN11
PB PAL COLOR
GND
From 0 5
VIDEO UNIT
CN510
(Page 3-48)
C323
0.01
Q304
C316
82P
C317
22P
C318
18P
X301
C324
0.1
R320
330
R324
PAL COLOR PHASE-1
R326
PAL COLOR PHASE-2
PB 0.35 Vp-p
PAL
C308
10/16
C309
0.47
/50
C310
0.001
C311
33P
R318
560
R319
1K
C319
10/16
C320
0.01
C321
0.01
C322
47/6.3
C325
0.01
R325
750
LPF
302
LPF
301
R323
750
R324
1K
R326
1K
C327
0.1/50
C328
0.1/50
R313
33K
R315
560
IC303
VCO
ACC
P GND
P Vcc
LIM
R-Y DEMOD
B-Y DEMOD
PD
KILLER
FF
FF
TP301
L304
18
C312
0.01
R314
22K
C313
1/50
TP304
TP305
C357
0.1
R366
27K
R368
33K
R365
2.2K
Q311
R367
2.2K
C356
390P
R364
1K
Q310
R363
1.2K
C355
0.0068
C354
0.01
REC 0.4 Vp-p
SECAM
ITL INJ
R-Y MOD
LIM
R-Y SW
R-Y CLAMP
C314
47/6.3
R316
82
R317
82
R314
SECAM MOD VCO-2
1/272
BURST GATE
B-Y SW
C315
0.001
ID
RST
PULSE GEN
B-Y MOD
LIM
B-Y CLAMP
C353
0.1
R360
27K
R362
33K
R359
2.2K
Q309
MM
FV COMP
1/282
PHASE CHANGE
REC 0.3 Vp-p
PAL
REC/PB 0.2 Vp-p
AL/SECAM
B-Y SUB CARRIER GEN
B-Y SUB CARRIER GEN
BLK
R361
2.2K
C352
390P
R358
1K
Q308
R357
1.2K
S Vcc
S GND
C351
0.0068
C350
0.01
SWD 5 V
TP313
D306
TP307
TP308
TP311
TP306
D307
C338
/6.3
C337
0.01
R345
51K
R346
1.5K
R343
8.2K
R347
1K
R348
3.3K
R349
1K
R350
2.2K
R351
3.3K
R352
1K
R353
2.2K
R354
1K
R355
15K
R344
33K
R355
MAGENTA LEVEL-1
C339
0.0022
C340
0.01
C341
1/50
C342
0.001
C343
10/16
C345
0.01
TP
GND1
C346
1/50
C347
0.01
C348
10/16
C349
0.001
R356
15K
R344
LIMITER LEVEL
R348
R SC VCO
R421
75
R350 SECAM MOD VCO-1
R351
B SC VCO
R353
SECAM MOD VCO-3
CN6
R OUT
GND
G OUT
GND
B OUT
GND
RAPID CTL
From/To 1 0
VIDEO INTERFACE
CN603
(Page 3-40)
IC401
6dB
GND
NC
Vcc
REC/PB 2.0 Vp-p
PAL/SECAM
R422
0/6.3
R420
75
LC501
LC502
GND
V OUT
V GND
R IN
GND
G IN
GND
B IN
GND
A(L) OUT
A(R) OUT
V IN
V GND
CTL2
GND
CTL1
A(L) IN
A GND
A(R) IN
C402
1/50
C403
0.01
L401
100
C401
47/6.3
CN12
TNR VIDEO
GND
TNR AUDIO
GND
From 0 8
TUNER CTL
CN2
(Page 3-54)
K502
Q406
R502
560
R501
560
S501
SYSTEM
L504
10
L503
10
R422
75
R504
4.7K
R505
100K
R506
820K
C504
0.001
C503
0.001
SP1 TNR AUDIO
SP2 GND
PS1 AUDIO IN(L)
PS2 AUDIO IN(R)
SP3 AUDIO OUT(L)
SP4 AUDIO OUT(R)
SP5 GND
SP6 AV CTL 1
SP7 AV CTL 2
SP8 AV CTL 3
SP9 AV CTL 4
SP10 UNSW 12V
SP11 GND
From/To 8 7
CH PLUS
(SECAM PROCESS)
(Page 3-85)
CN13
SCR DET
S DATA
S CLK
CATV CTL
From/To 0 4
MECHACON
(A/S/M)
CN608 (Page 3-29)
CN14
VPS VIDEO OUT
GND
To 2 0
TIMER
CN6 (Page 3-66)
IC401
MM1031XS
CN16
GND
NC
From/To
RF CONVERTOR
(Page 3-73)

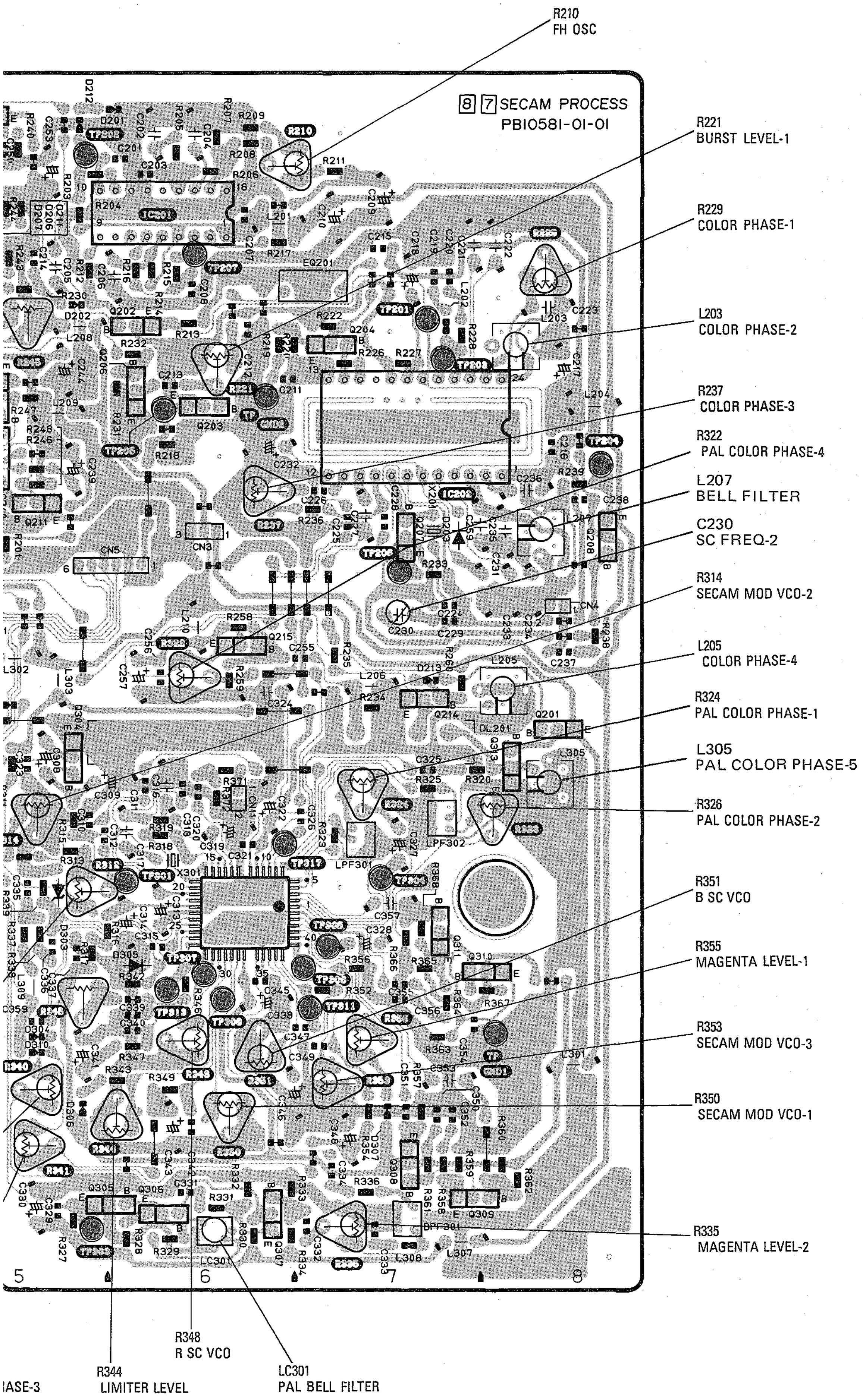
## 3.42 SECAM PROCESS CIRCUIT BOARD


IC1
IC2
IC3
IC203
IC204
IC205
IC301
IC303
IC401
IC402
TP209
H.SYNC
TP208
V.SYNC
TP GND3
TP GND4
CN1
CN2
CN6
CN7
CN8
CN9
CN10
CN12
CN13
CN14
CN15
CN16
B124
B34
S501
LC501
LC502
LC503
LC504
K501
K502
Q1
Q2
Q3
Q209
Q211
Q213
Q216
Q301
Q302
Q303
Q312
Q401
Q402
Q403
Q404
Q405
Q406
Q407
Q408
Q409
Q410
Q411
Q412
Q413
R314
R340
R345

R312
PAL VCO

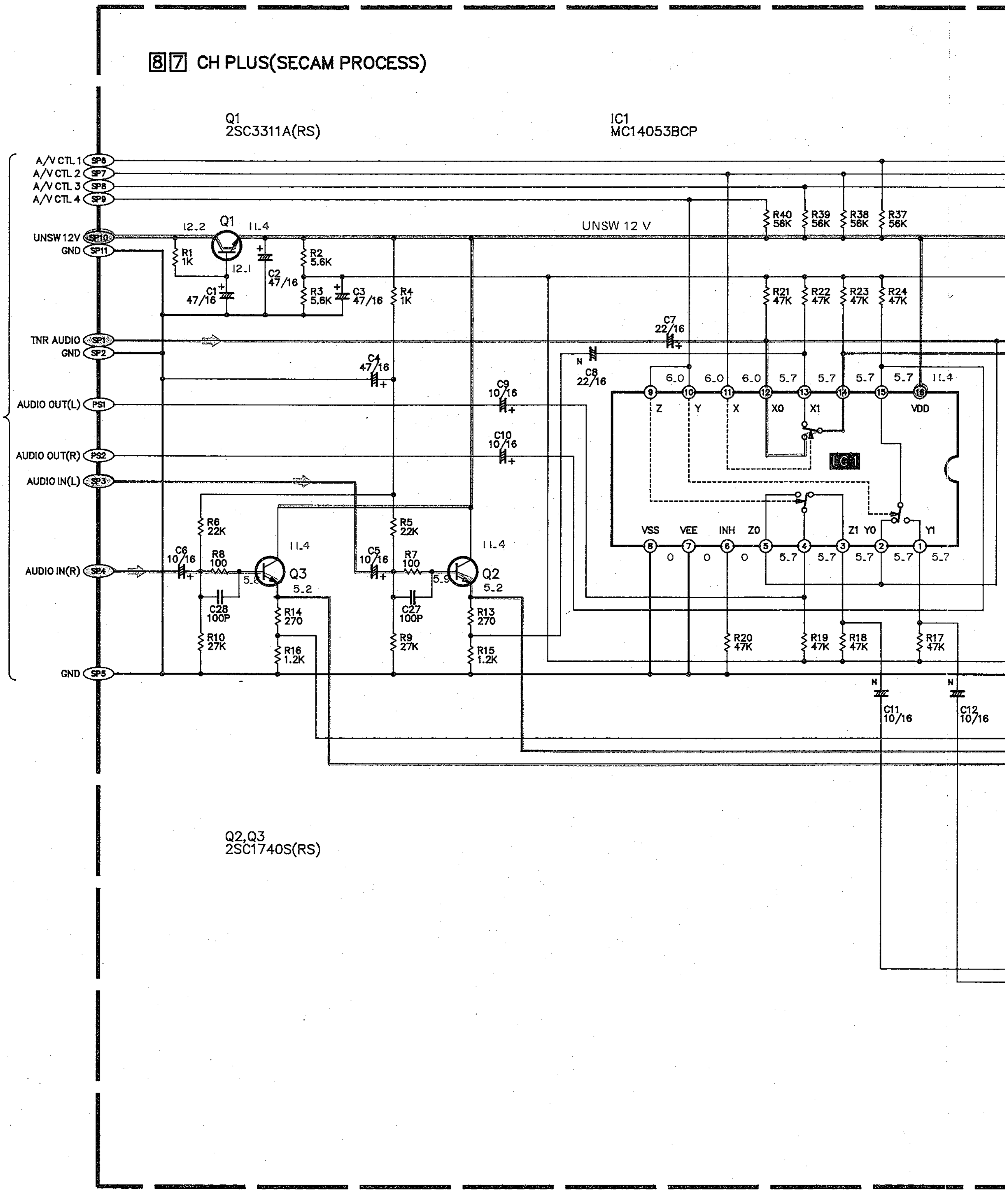
R340
SECAM MOD VCO-4

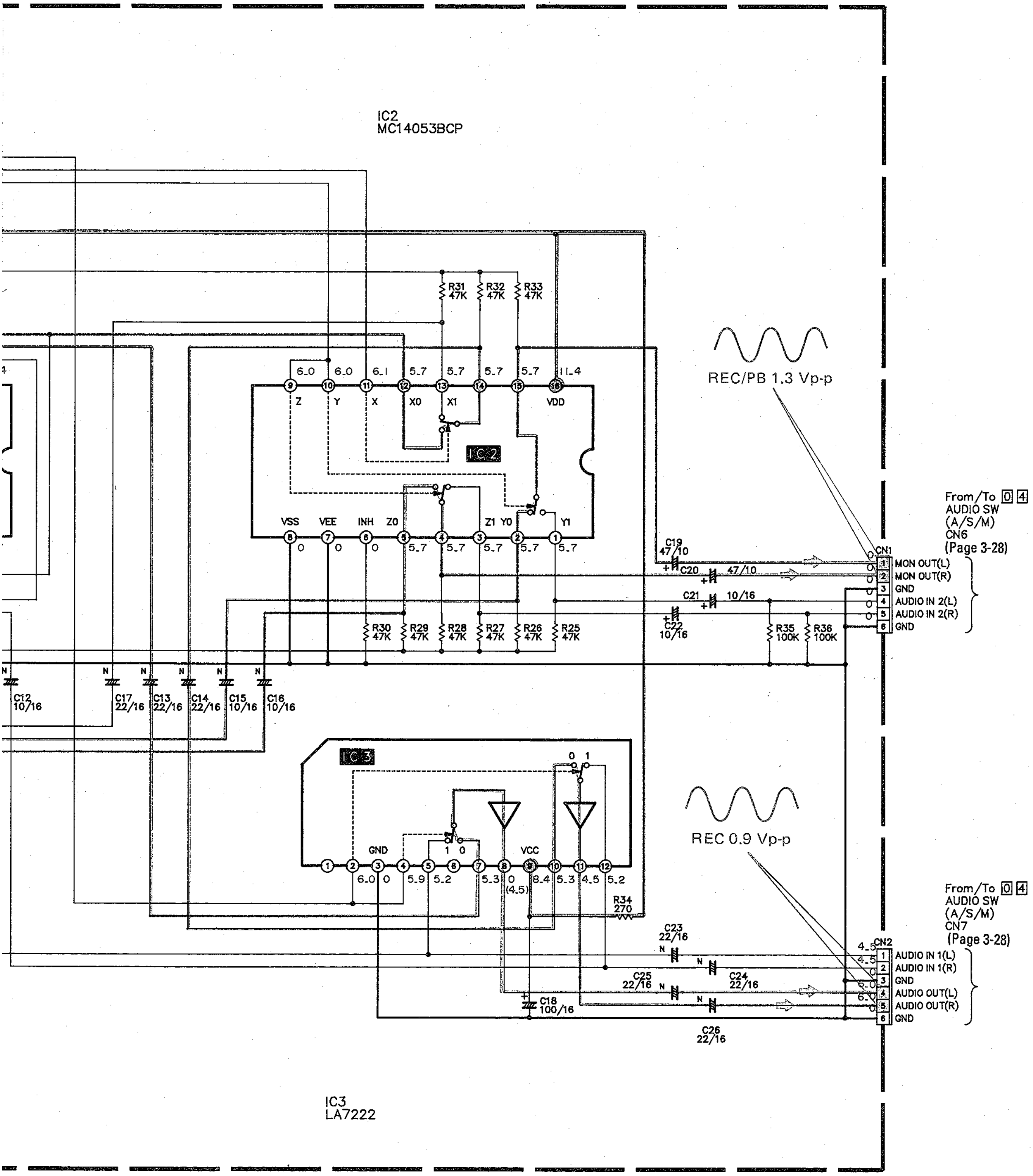
R341
PAL COLOR PHASE-3



8 7 SECAM PROCESS
PB10581-01-01
R210
FH OSC
R221
BURST LEVEL-1
R229
COLOR PHASE-1
L203
COLOR PHASE-2
R237
COLOR PHASE-3
R322
PAL COLOR PHASE-4
L207
BELL FILTER
C230
SC FREQ-2
R314
SECAM MOD VCO-2
L205
COLOR PHASE-4
R324
PAL COLOR PHASE-1
L305
PAL COLOR PHASE-5
R326
PAL COLOR PHASE-2
R351
B SC VCO
R355
MAGENTA LEVEL-1
R353
SECAM MOD VCO-3
R350
SECAM MOD VCO-1
R335
MAGENTA LEVEL-2
R348
R SC VCO
R344
LIMITER LEVEL
LC301
PAL BELL FILTER
ASE-3
IC201
IC202
5
6
7
8

## 3.43 CH PLUS (SECAM PROCESS) SCHEMATIC DIAGRAM


87 CH PLUS(SECAM PROCESS)
Q1
2SC3311A(RS)
IC1
MC14053BCP
From/To 87 SECAM PROCESS (Page 3-82)
A/V CTL 1 SP6
A/V CTL 2 SP7
A/V CTL 3 SP8
A/V CTL 4 SP9
UNSW 12V SP10
GND SP11
TNR AUDIO SP1
GND SP2
AUDIO OUT(L) PS1
AUDIO OUT(R) PS2
AUDIO IN(L) SP3
AUDIO IN(R) SP4
GND SP5
UNSW 12 V
R1 1K
C1 47/16
C2 47/16
R2 5.6K
R3 5.6K
C3 47/16
R4 1K
C4 47/16
C7 22/16
C8 22/16
C9 10/16
C10 10/16
R40 56K
R39 56K
R38 56K
R37 56K
R21 47K
R22 47K
R23 47K
R24 47K
R6 22K
R5 22K
C6 10/16
R8 100
C5 10/16
R7 100
Q3
Q2
C28 100P
C27 100P
R14 270
R13 270
R10 27K
R9 27K
R16 1.2K
R15 1.2K
R20 47K
R19 47K
R18 47K
R17 47K
C11 10/16
C12 10/16
Z
Y
X
X0
X1
VDD
VSS
VEE
INH
Z0
Z1
Y0
Y1
IC1
12.2
11.4
12.1
6.0
5.7
5.2
5.9
0
Q2,Q3
2SC1740S(RS)

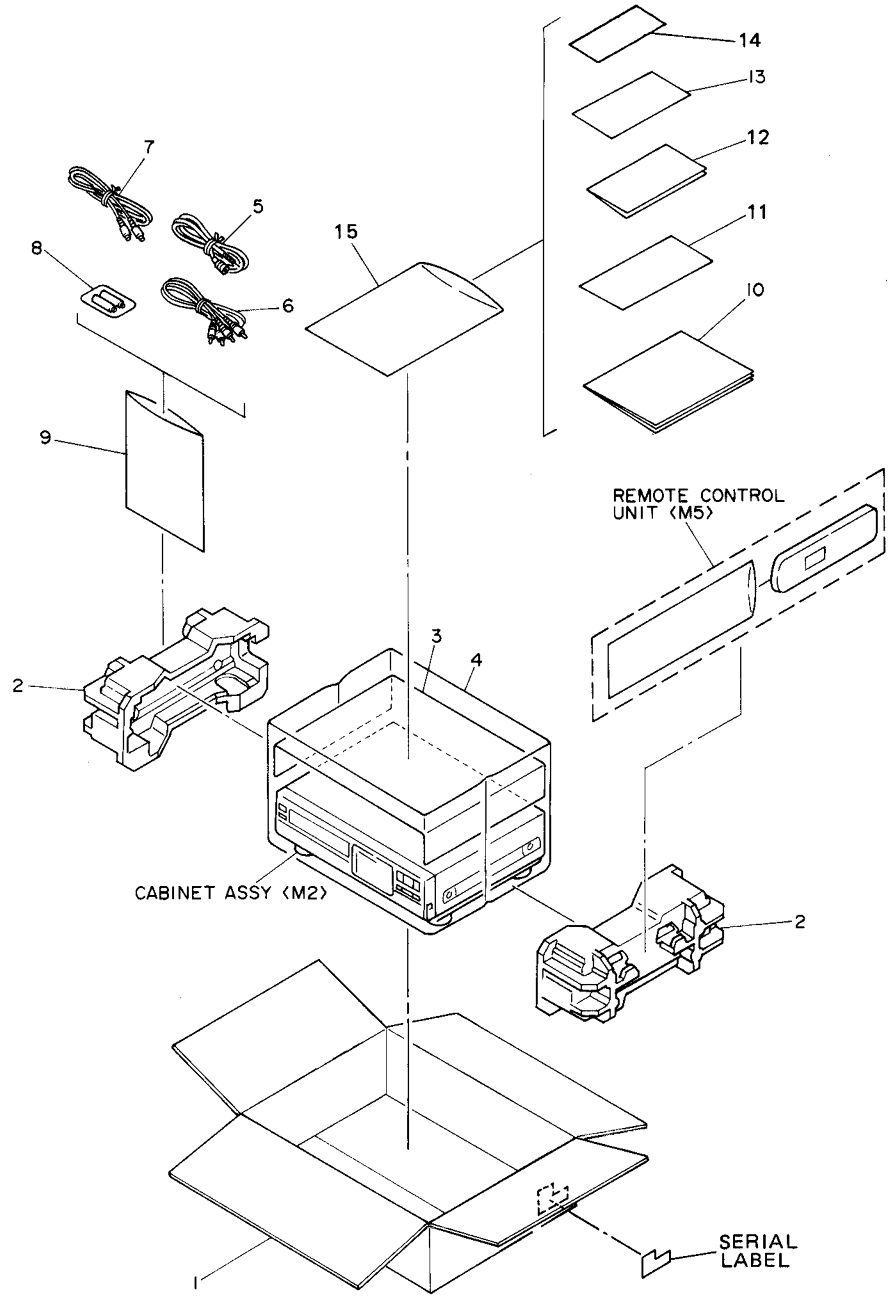

IC2
MC14053BCP
R31 47K
R32 47K
R33 47K
6.0
6.0
6.1
5.7
5.7
5.7
5.7
11.4
Z
Y
X
X0
X1
VDD
IC 2
VSS
VEE
INH
Z0
Z1
Y0
Y1
0
0
0
5.7
5.7
5.7
5.7
5.7
R30 47K
R29 47K
R28 47K
R27 47K
R26 47K
R25 47K
C12 10/16
C17 22/16
C13 22/16
C14 22/16
C15 10/16
C16 10/16
N
REC/PB 1.3 Vp-p
C19 47/10
C20 47/10
C21 10/16
C22 10/16
R35 100K
R36 100K
From/To 04
AUDIO SW
(A/S/M)
CN6
(Page 3-28)
CN1
1 MON OUT(L)
2 MON OUT(R)
3 GND
4 AUDIO IN 2(L)
5 AUDIO IN 2(R)
6 GND
IC 3
0 1
1 0
GND
VCC
6.0
0
5.9
5.2
5.3
0
(4.5)
8.4
5.3
4.5
5.2
R34 270
REC 0.9 Vp-p
C23 22/16
C25 22/16
C24 22/16
C18 100/16
C26 22/16
From/To 04
AUDIO SW
(A/S/M)
CN7
(Page 3-28)
CN2
4.5
4.5
6.0
6.0
1 AUDIO IN 1(L)
2 AUDIO IN 1(R)
3 GND
4 AUDIO OUT(L)
5 AUDIO OUT(R)
6 GND
IC3
LA7222

# SECTION 4
# EXPLODED VIEWS AND PARTS LIST

## SAFETY PRECAUTION

**Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.**

### 4.1 PACKING ASSEMBLY < M1 >

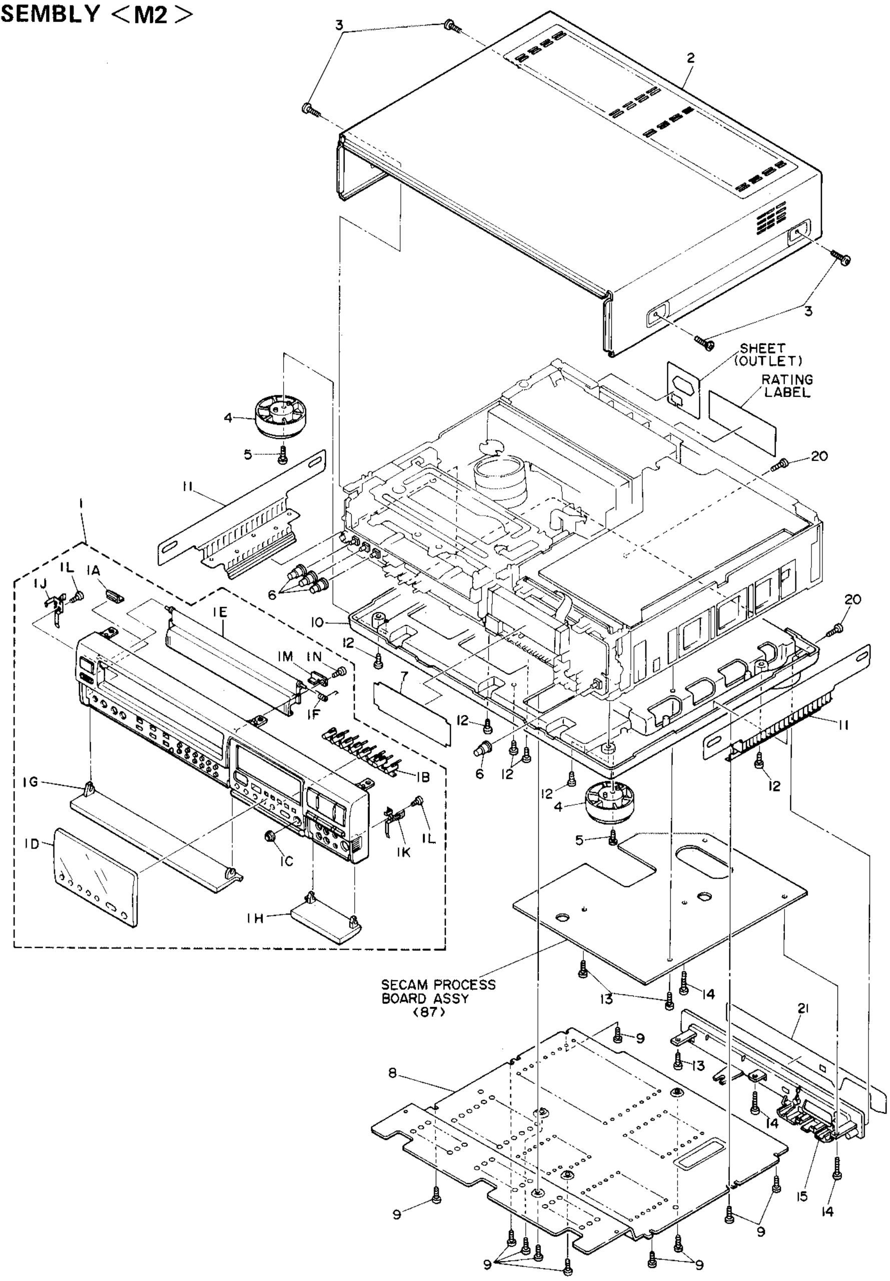

14
13
12
11
10
15
7
5
8
6
9
REMOTE CONTROL UNIT ‹M5›
3
4
2
CABINET ASSY ‹M2›
2
SERIAL LABEL
1

********************************

## PACKING ASSEMBLY < M1 >

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| 1 | PQ33917 | PACKING CASE |
| 2 | PQ33882A | CUSHION ASSY |
| 3 | PQ41026-21 | PROTECT SHEET |
| 4 | PQM30021-82 | POLY BAG |
| 5 | PU59168-3 | RF CABLE |
|  | or PU59167-3 | RF CABLE |
| 6 | PU56142-3 | PIN CORD ASSY |
|  | or PU56142-5 | PIN CORD ASSY |
| 7 | PU60111 | S CABLE |
|  | or PU61113 | S CABLE |
| 8 | UM-3DJ2P | BATTERY,X2 |
| 9 | QPGA020-02005 | POLY BAG |
| ⚠ 10 | PU30425-1226 | INSTRUCTIONS |
| 11 | PU36564 | SHEET(MINITEL) |
| 12 | TCN-3379 | TAPE CATALOG |
| 13 | BT-20063B | GUARANTY CARD |
| 14 | BT-20066A | E.DISTRI.LIST |
| 15 | QPGA025-03505 | POLY BAG |

## 4.2 CABINET ASSEMBLY <M2>


3
2
3
SHEET (OUTLET)
RATING LABEL
20
4
5
11
1
IL
IA
IJ
IE
6
10
12
IM
IN
IF
7
20
12
6
12
11
IB
IG
12
4
12
IL
IK
IC
ID
5
IH
SECAM PROCESS BOARD ASSY <87>
13
14
21
9
13
8
14
15
14
9
9
9
9

*************************************

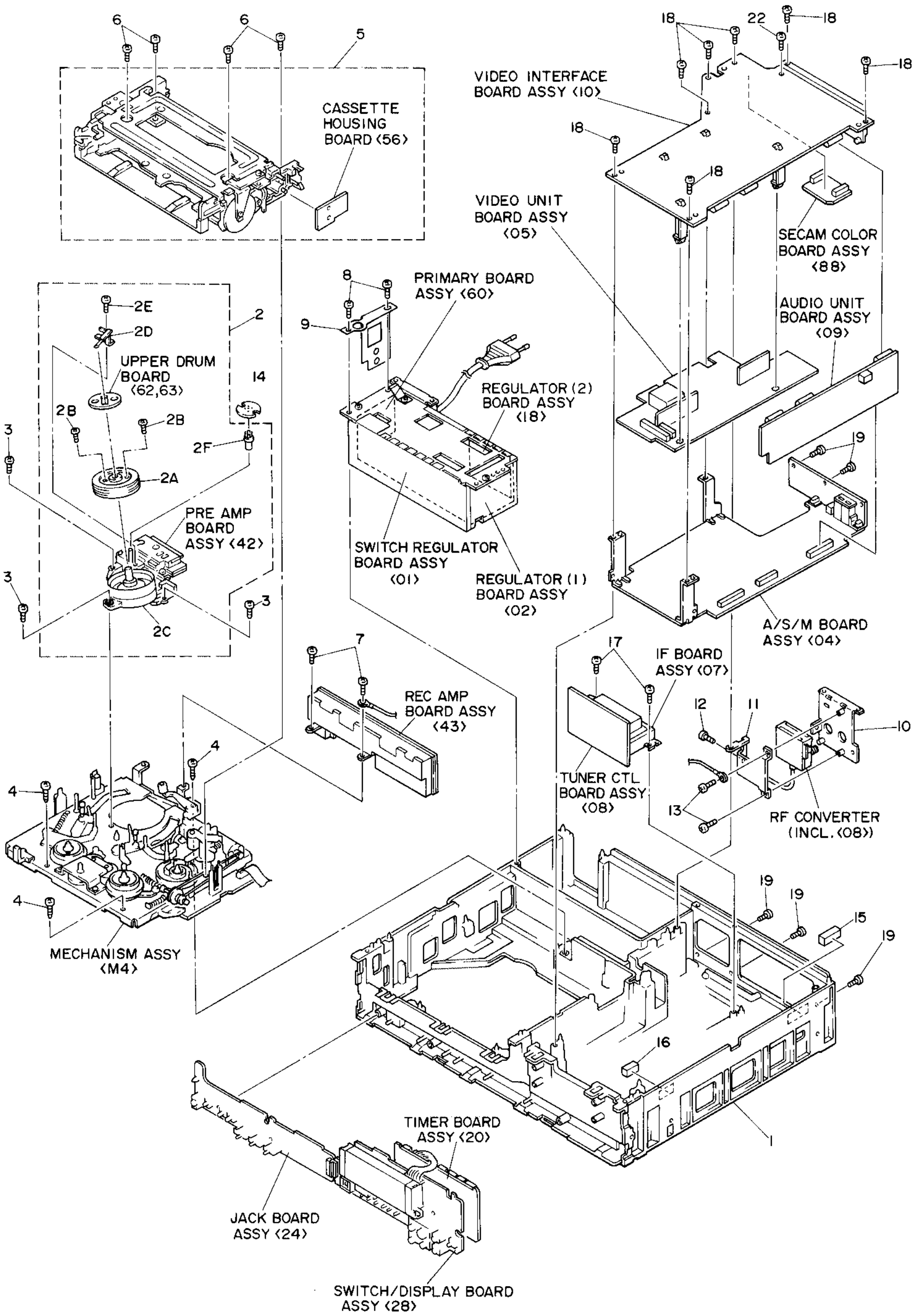
### CABINET ASSEMBLY <M2>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|---|
| ⚠ | 1 | PQ11270A-3 | FRONT PANEL ASSY |
| | 1A | PQ33846-1-2 | INDICATOR |
| | 1B | PQ33879 | BUTTON |
| | 1C | PQ45177 | CAP(3) |
| | 1D | PQ33878-1-1 | WINDOW |
| | 1E | PQ21252-1-1 | CASSETTE HOUSING DOOR |
| | 1F | PQ44685-1-2 | TORSION SPRING |
| | 1G | PQ33866C-2 | DOOR(1) ASSY |
| | 1H | PQ33867C | DOOR(2) ASSY |
| | 1J | PQ45170-1-1 | SPRING(L) |
| | 1K | PQ45171-1-1 | SPRING(R) |
| | 1L | SDSF2605Z | SCREW,X2 |
| | 1M | PQ45203 | BRACKET |
| | 1N | SDSF2005Z | SCREW |
| ⚠ | 2 | PQ11011-6 | TOP COVER |
| | 3 | PQ43827 | SPECIAL SCREW,X4 FOR TOP COVER |
| | 4 | PQ43945A | FOOT ASSY,X2 |
| | 5 | SDSF3010Z | SCREW,X2 FOR FOOT ASSY |
| | 6 | PQ43888-2 | KNOB(VOLUME),X4 |
| | 7 | PQ45254 | FILTER(FDP) |
| ⚠ | 8 | PQ11150-2 | BOTTOM COVER |
| | 9 | SDSF3010Z | SCREW,X10 FOR BOTTOM COVER |
| ⚠ | 10 | PQ11149-1-2 | COVER(CHASSIS) |
| | 11 | PQ21242-1-1 | BRACKET(EARTH),X2 |
| | 12 | SDSF3010Z | SCREW,X6 FOR COVER |
| | 13 | SDSF3012Z | SCREW,X3 FOR S.P.&T.B. |
| | 14 | SDSF3016M | SCREW,X3 FOR S.P.&T.B. |
| ⚠ | 15 | PQ11238 | TERMINAL BOARD |
| | 20 | SDSF3010M | SCREW,X2 FOR REAR PANEL(SP) |
| | 21 | PQ33948 | SHEET(T.BOARD) |

## 4.3 CHASSIS ASSEMBLY < M3 >

## BEWARE OF BOGUS PARTS

***Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.***


6
6
5
CASSETTE HOUSING BOARD <56>
VIDEO INTERFACE BOARD ASSY <10>
18
22
18
18
18
18
VIDEO UNIT BOARD ASSY <05>
SECAM COLOR BOARD ASSY <88>
AUDIO UNIT BOARD ASSY <09>
8
PRIMARY BOARD ASSY <60>
9
2E
2D
2
UPPER DRUM BOARD <62,63>
14
2B
2B
2F
3
2A
PRE AMP BOARD ASSY <42>
3
3
2C
REGULATOR (2) BOARD ASSY <18>
SWITCH REGULATOR BOARD ASSY <01>
REGULATOR (1) BOARD ASSY <02>
19
A/S/M BOARD ASSY <04>
7
REC AMP BOARD ASSY <43>
17
IF BOARD ASSY <07>
12
11
10
TUNER CTL BOARD ASSY <08>
13
RF CONVERTER (INCL. <08>)
4
4
4
MECHANISM ASSY <M4>
19
19
15
19
16
1
TIMER BOARD ASSY <20>
JACK BOARD ASSY <24>
SWITCH/DISPLAY BOARD ASSY <28>

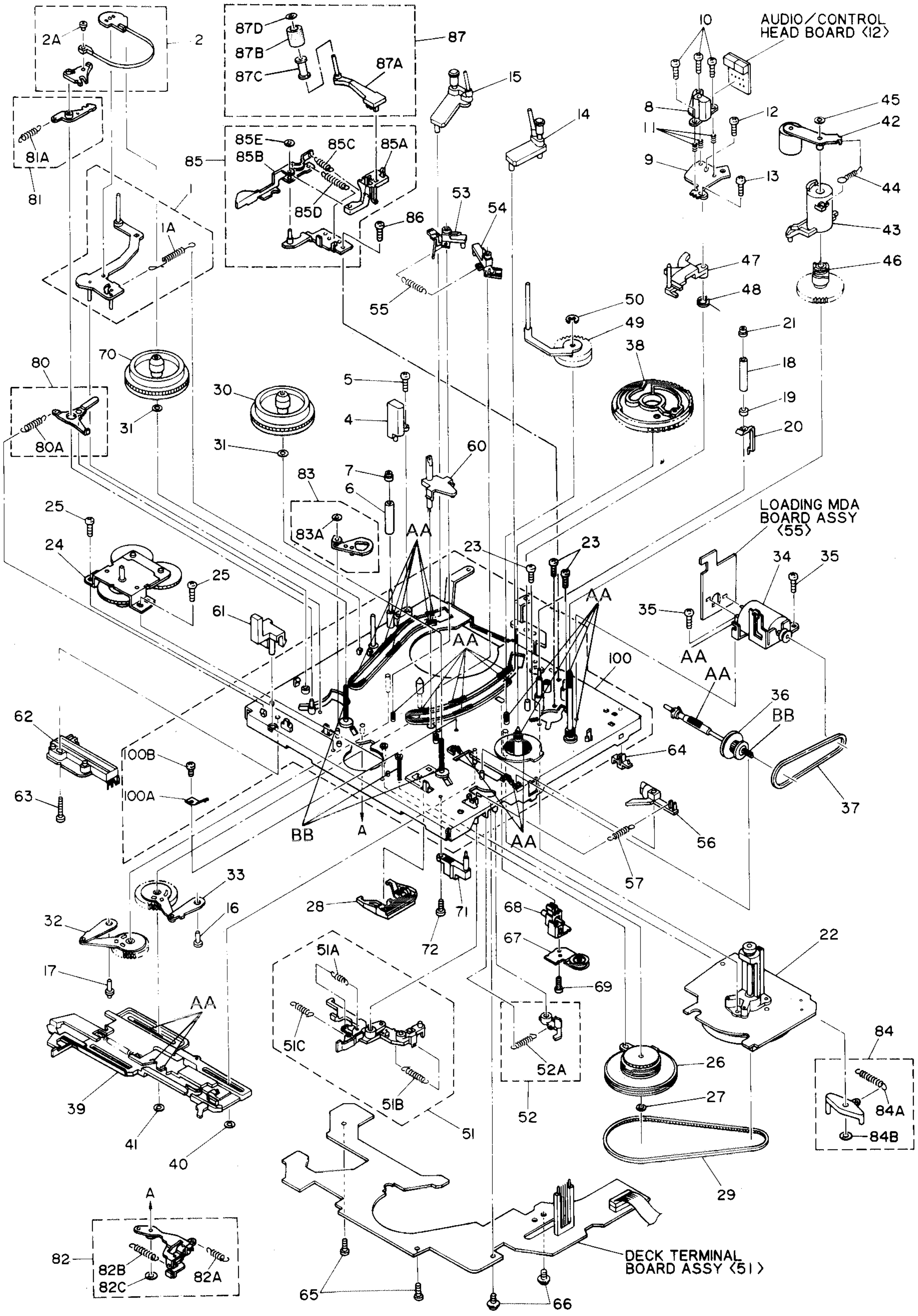
#⚠ REF No. PART No. PART NAME, DESCRIPTION

*********************************

### CHASSIS ASSEMBLY <M3>

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| ⚠ 1 | PQ10995-1-9 | BOTTOM CHASSIS |
| 2 | PDV2259A | DRUM ASSY |
| 2A | PDM2070B | UPPER DRUM ASSY |
| 2B | PDM4165A | DRUM SCREW ASSY,X2 |
| 2C | PDM2138AD | LOWER DRUM MOTOR ASSY |
| 2D | PDM4229A-1 | BRUSH ASSY |
| 2E | SPSG2606Z | SCREW |
| 2F | PDM4226A | ROLLER ASSY |
| 3 | SDST2610Z | SCREW,X3 FOR DRUM ASSY |
| 4 | PQ43831 | SPECIAL SCREW,X3 FOR MAIN DECK |
| 5 | PUS29499D | CASSETTE HOUSING ASSY |
| 6 | SDST2608Z | SCREW,X4 FOR CASS.HOUSING |
| 7 | SDSG2606Z | SCREW,X2 FOR REC BOARD |
| 8 | SDSF3010Z | SCREW,X2 FOR SW REG BOARD |
| 9 | PQ44940-1-1 | PLATE(EARTH) |
| ⚠ 10 | PQ21038-11 | TERMINAL BOARD |
| 11 | PQ33380 | BRACKET |
| 12 | SDST2606Z | SCREW,FOR RF CONV. |
| 13 | SDSF2608Z | SCREW,X2 FOR RF CONV. |
| 14 | PQ45160 | INERTIA PLATE |
| 15 | PQM30029-153 | SPACER |
| 16 | PQM30029-161 | SPACER |
| 17 | SDSF3010Z | SCREW,X2 FOR TUNER UNIT |
| 18 | SDSF3010Z | SCREW,X7 FOR VIDEO BOARD |
| 19 | SDSF3010M | SCREW,X5 FOR REAR PANEL |
| 22 | SDSF3010Z | SCREW,FOR TERMINAL BOARD |

## 4.4 MECHANISM ASSEMBLY < M4 >


2A
2
81A
81
87D
87B
87C
87A
87
85E
85B
85C
85A
85
85D
86
1
1A
15
14
53
54
55
10
AUDIO/CONTROL HEAD BOARD <12>
8
12
11
9
13
45
42
44
43
46
47
48
50
49
38
21
18
19
20
80
80A
70
30
31
31
5
4
60
7
6
83
83A
AA
25
24
25
61
23
23
LOADING MDA BOARD ASSY <55>
34
35
35
100
AA
AA
36
BB
37
62
63
100B
100A
BB
A
64
56
57
33
16
32
17
28
71
72
68
67
69
22
51A
51C
51B
51
52A
52
26
27
29
84
84A
84B
39
41
40
A
82
82B
82C
82A
65
66
DECK TERMINAL BOARD ASSY <51>

| Category | Part number | MARK |
|---|---|---|
| Grease | KANTO-G-31KAV | AA |
| Oil | COSMO-HV56 | BB |

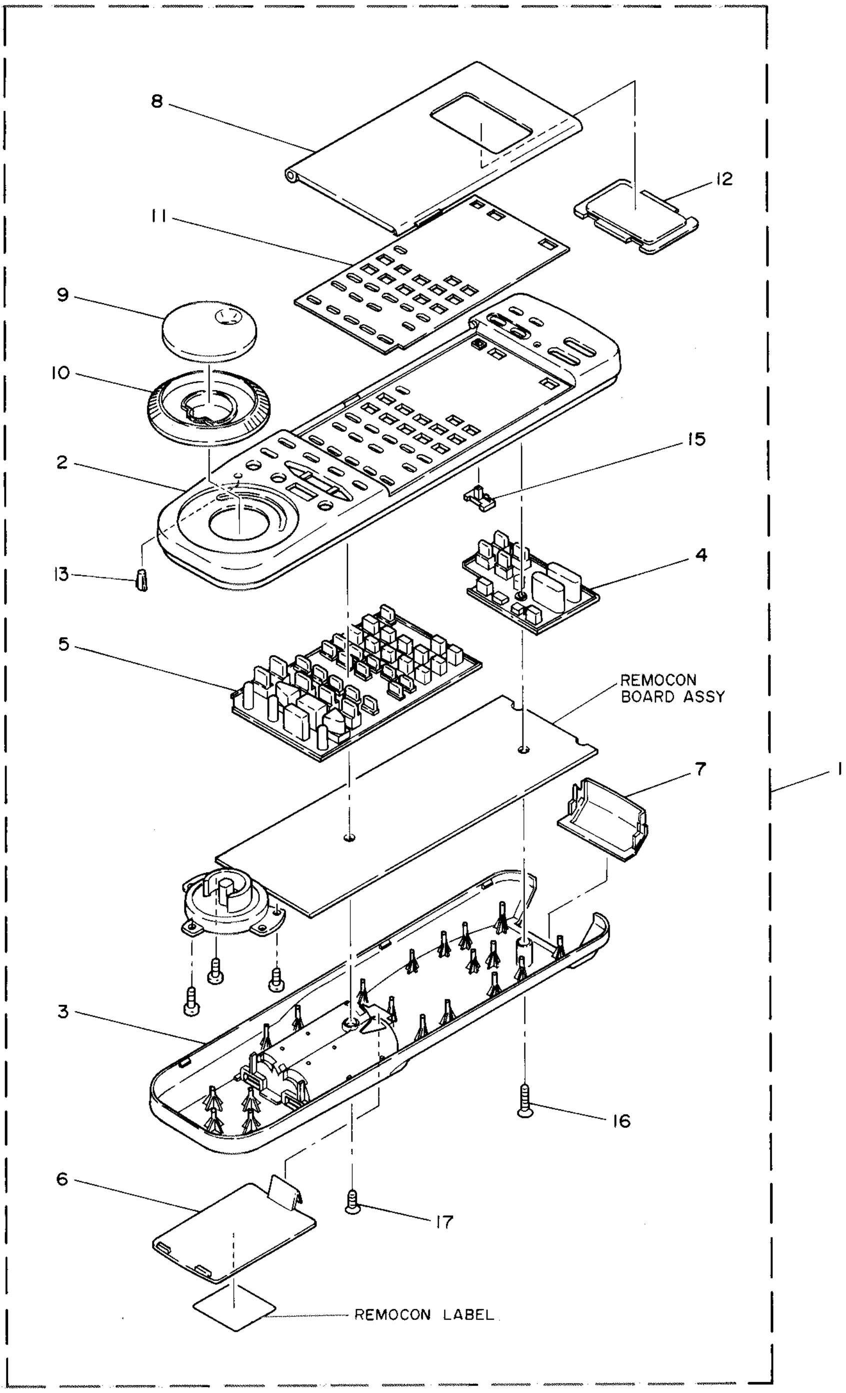
**NOTE:** The section marked in AA and BB indicate lubrication and greasing areas.

********************************

## MECHANISM ASSEMBLY <M4>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|---|
| | 1 | PQ43497E-10 | TENSION ARM ASSY |
| | 1A | PQ43500 | TENSION SPRING |
| | 2 | PQ44734A-5 | TENSION BAND ASSY |
| | 2A | PQ44737-2 | ADJUST PIN |
| | 4 | PU60616 | FULL ERASE HEAD |
| | 5 | SDSF2614Z | SCREW |
| | 6 | PQ43505-1-1 | ROLLER |
| | 7 | PQ43506 | GUIDE POLE CAP |
| | 8 | PU61002 | AUDIO/CONTROL HEAD |
| | 9 | PQ43509 | HEAD BASE |
| | 10 | PQ43687A | SPECIAL SCREW,X3 |
| | 11 | PQM30002-192 | COMPRESSION SPRING,X3 |
| | 12 | SPSF2608M | SCREW |
| | 13 | SPSP2606Z | SCREW |
| | 14 | PU61103-2 | POLE BASE(TU) ASSY |
| | 15 | PU61151-2-3 | POLE BASE(SUP) ASSY |
| | 16 | PQ43524 | STOPPER |
| | 17 | PQ43525 | STOPPER 2 |
| | 18 | PQ43526-1-3 | TAPE GUIDE |
| | 19 | PQ43670-1-1 | GUIDE FLANGE |
| | 20 | PQ43675 | TAPE GUARD |
| | 21 | PQ43506 | GUIDE POLE CAP |
| ⚠ | 22 | PU61003-1-2 | CAPSTAN MOTOR |
| | 23 | SPSG2608Z | SCREW,X3 |
| | 24 | PU61246 | IDLER GEAR UNIT |
| | 25 | SPST2606Z | SCREW,X2 |
| | 26 | PU61245-1-1 | CLUTCH UNIT |
| | 27 | PQM30017-8 | SLIT WASHER |
| | 28 | PQ43532B | CHANGE LEVER ASSY |
| | 29 | PU61006 | TIMING BELT |
| | 30 | PU60858-1-4 | REEL DISK (TAKE-UP) |
| | 31 | PQM30018-54 | SPACER,X2 |
| | 32 | PQ43537A | LOADING ARM ASSY (SUPLLY) |
| | 33 | PQ43542B | LOADING ARM ASSY (TAKE-UP) |
| ⚠ | 34 | PQ43676B-5 | MODE MOTOR ASSY |
| ⚠ | | or PQ43676C | MODE MOTOR ASSY |
| | 35 | SPST2606Z | SCREW,X2 |
| | 36 | PQ43548A-3 | WORM CLUTCH ASSY |
| | 37 | PQM30003-23 | BELT |
| | 38 | PQ20822-2-4 | CONTROL CAM |
| | 39 | PQ44581A-6 | PLATE ASSY |
| | 40 | PQM30017-12 | SLIT WASHER |
| | 41 | PQM30017-8 | SLIT WASHER |
| | 42 | PQ43558A | PINCH ROLLER ARM ASSY |
| | | or PQ43558B | PINCH ROLLER ARM ASSY |
| | 43 | PQ32415 | PINCH ROLLER PRESS LEVER |
| | 44 | PQM30001-233 | TENSION SPRING |
| | 45 | PQM30017-12 | SLIT WASHER |
| | 46 | PQ32416-2 | PINCH ROLLER CAM |
| | 47 | PQ43567A-8 | GUIDE ARM ASSY |
| | 48 | PQ43569-1-3 | TORSION SPRING |
| | 49 | PQ43570A-1 | HALF LOADING GEAR ASSY |
| | 50 | PQM30017-12 | SLIT WASHER |
| | 51 | PQ43575A-5 | CANCEL LEVER ASSY |
| | 51A | PQM30001-273 | TENSION SPRING |
| | 51B | PQM30001-237 | TENSION SPRING |
| | 51C | PQM30001-274 | TENSION SPRING |
| | 52 | PQ43578A-2 | HOOK ASSY |
| | 52A | PQM30001-238 | TENSION SPRING |
| | 53 | PQ43581C | MAIN BRAKE(SUPPLY) ASSY |
| | 54 | PQ43582B | MAIN BRAKE(TAKE-UP) ASSY |
| | 55 | PQM30001-251 | TENSION SPRING |
| | 56 | PQ43583A | SUB BRAKE ASSY (TAKE-UP) |
| | 57 | PQM30001-298 | TENSION SPRING |
| | 60 | PU60621-1-2 | LED HOLDER,(INCL.D1) |
| | 61 | PU60624-1-4 | REC SAFETY SWITCH |
| | 62 | PU61247 | SLIDE ENCORDER,(S3) |
| | 63 | SDSF2614Z | SCREW |
| | 64 | PQ32516 | PWB HOLDER |
| | 65 | SDST2616Z | SCREW, X2 |
| | 66 | GPSF2608Z | SCREW, X2 |
| | 67 | PQ43912A-7 | PULLEY ARM ASSY |
| | 68 | PQ33249 | PULLEY BASE |
| | 69 | PQ45121A | SCREW |
| | 70 | PU60859-1-4 | REEL DISK (SUPPLY) |
| | 71 | PU61008 | CASSETTE SW |
| | 72 | SDST2608Z | SCREW |
| | 80 | PQ44739A-1 | LOCK LEVER 1 ASSY |
| | 80A | PQM30001-278-46 | TENSION SPRING |
| | 81 | PQ44741A-3 | LOCK LEVER 2 ASSY |
| | 81A | PQM30001-279-52 | TENSION SPRING |
| | 82 | PQ44743A-5 | IDLER LEVER ASSY |
| | 82A | PQM30001-302 | TENSION SPRING |
| | 82B | PQM30001-301 | TENSION SPRING |
| | 82C | PQM30017-5 | SLIT WASHER |
| | 83 | PQ44746A-2 | OFF LEVER ASSY |
| | 83A | PQM30017-5 | SLIT WASHER |
| | 84 | PQ44585A-6 | CAPSTAN BRAKE ASSY |
| | 84A | PQM30001-282-52 | SPRING |
| | 84B | PQM30017-8 | SLIT WASHER |
| | 85 | PQ44843A-1 | ARM BASE ASSY |
| | 85A | PQ33511-1-2 | CLEANER ARM |
| | 85B | PQ44841 | CANCEL LEVER |
| | 85C | PQM30001-299 | TENSION SPRING |
| | 85D | PQM30001-300 | TENSION SPRING |
| | 85E | PQM30017-5 | SLIT WASHER |
| | 86 | SPST2606Z | SCREW |
| | 87 | PQ44840A | CLEANER BASE ASSY |
| | 87A | PQ44844A | CLEANER BASE SUB ASSY |
| | 87B | PQ44837 | CLEANER |
| | 87C | PQ44838 | CLEANER HOLDER |
| | 87D | PQM30017-38 | SLIT WASHER |
| | 100 | PQ20994A-4 | MAIN DECK ASSY |
| | | or PQ21232A | MAIN DECK ASSY |
| | 100A | PQ43849 | EARTH PLATE |
| | 100B | SPST2604Z | SCREW |

## 4.5 REMOTE CONTROL UNIT < M5 >


8
12
11
9
10
15
2
4
13
5
REMOCON
BOARD ASSY
7
1
3
16
6
17
REMOCON LABEL

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| ⚠ 1 | PQ11237A | REMOTE CONTROLLER ASSY |
| 2 | PQ11221 | COVER(FRONT) |
| 3 | PQ11093 | COVER(REAR) |
| 4 | PQ33870-2 | BUTTON(1) |
| 5 | PQ21276 | BUTTON(3) |
| 6 | PQ33609 | CAP(BATTERY) |
| 7 | PQ33610 | WINDOW(IR) |
| 8 | PQ33915 | DOOR |
| 9 | PQ33612-1-1 | KNOB(JOG) |
| 10 | PQ33613-1-2 | KNOB(SHUTTLE) |
| 11 | PQ33914 | PLATE |
| 12 | PQ45167 | WINDOW(DOOR) |
| 13 | PQ45206 | INDICATOR(A) |
| 15 | PQ45219 | KNOB(SLIDE) |
| 16 | SSSF2008M | SCREW |
| 17 | SSSF2006M | SCREW |

*********************************

### REMOTE CONTROL UNIT <M5>

# SECTION 5
# ELECTRICAL PARTS LIST

## SAFETY PRECAUTION

**Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.**

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|

***************************************

### SWITCHING REGULATOR BOARD ASSEMBLY<01><02><18>

| | | |
|---|---|---|
| PWBA | PB10565A-01 | SWITCHING REGULATOR BOARD ASSY |
| ⚠ COV1 | PQ33981 | COVER(AC) |
| ⚠ COV2 | PQ33644-1-2 | COVER(AC) (2) |
| ERT1 | PQ44695 | EARTH PLATE |
| ⚠ POC1 | QMP39H0-200 | POWER CORD |
| BKT1 | PQ21026-2-3 | BRACKET (1) |
| BKT2 | PQ21027-4-3 | BRACKET (2) |
| ⚠ BKT3 | PQ33381-2 | BRACKET(POWER) |
| BKT4 | PQ33965 | BRACKET(SW.REG) |
| ⚠ HD1 | QHS3771-108 | STRAIN RELIEF |
| SCW1 | SDST3006Z | SCREW,X8 |
| SCW2 | SDSP3008Z | SCREW |
| ⚠ SKT1 | QMC9021-001 | AC OUTLET |
| SLD1 | PQ33382 | SHIELD COVER(1) |
| SLD2 | PQ33383 | SHIELD COVER(2) |

### - SWITCHING REGULATOR BOARD ASSEMBLY<01> -

| | | |
|---|---|---|
| PWBA1 | PB10565A1-01 | SWITCHING REGULATOR BOARD ASSY |
| IC1 | LM358P | IC |
| | or XRA10358 | IC |
| | or BA10358 | IC |
| | or LM358N | IC |
| Q1 | 2SC4304 | TRANSISTOR |
| | or 2SC3752(LM)-CB7 | TRANSISTOR |
| Q2 | 2SC3616(MLK) | TRANSISTOR |
| Q4 | 2SB941P | TRANSISTOR |
| Q5 | 2SA1515(QR) | TRANSISTOR |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| D1 | RB-156 | DIODE | |
| D2 | AU01 | FR DIODE | |
| | or 1SR153-400-T2 | FR DIODE | |
| D3 | AU01 | FR DIODE | |
| | or 1SR153-400-T2 | FR DIODE | |
| D4 | AU01Z | FR DIODE | |
| | or ERA48-02 | FR DIODE | |
| | or 1SR153-200-T2 | FR DIODE | |
| D5 | MTZ27B | ZENER DIODE | |
| D7 | AK04 | DIODE | |
| | or 11EQS04 | SB DIODE | |
| D8 | AK04 | DIODE | |
| | or 11EQS04 | SB DIODE | |
| D10 | MTZ33A | ZENER DIODE | |
| D11 | AU01Z | FR DIODE | |
| | or ERA48-02 | FR DIODE | |
| | or 1SR153-200-T2 | FR DIODE | |
| D12 | 11EFS2 | FR DIODE | |
| D14 | FML-12S | FR DIODE | |
| | or 5DL2CZ41A | FR DIODE | |
| | or FCF06A20 | FR DIODE | |
| D15 | AU01Z | FR DIODE | |
| | or ERA48-02 | FR DIODE | |
| | or 1SR153-200-T2 | FR DIODE | |
| D16 | FMB-24 | BARRIER DIODE | |
| | or F5KQ40B | BARRIER DIODE | |
| | or 5GWJ2CZ42 | SB DIODE | |
| D18 | MTZV6.2A | ZENER DIODE | |
| D19 | RD33ES-T1B4 | ZENER DIODE | |
| R2 | QRZ0078-2R2 | W.W.RESISTOR | 2.2Ω,2W |
| R3 | QRD161J-184 | RESISTOR | 180KΩ,1/6W |
| R4 | QRD161J-184 | RESISTOR | 180KΩ,1/6W |
| R5 | QRD161J-563 | RESISTOR | 56KΩ,1/6W |
| R6 | QRG029J-683G | OMF RESISTOR | 68KΩ,2W |
| R7 | QRG029J-561A | OMF RESISTOR | 560Ω,2W |
| R8 | QRG029J-331G | RESISTOR | 330Ω,2W |
| R9 | QRX014J-R33Z | MF RESISTOR | 0.33Ω,1W |
| R10 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| R11 | QRD161J-471 | RESISTOR | 470Ω,1/6W |
| ⚠ R12 | QRZ0077-470X | FUSIBLE RESISTOR | 47Ω,1/4W |
| R14 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| ⚠ R15 | QRZ0077-470X | FUSIBLE RESISTOR | 47Ω,1/4W |
| R16 | QRV144F-1072AY | CMF RESISTOR | 10.7KΩ,1/4W |
| R17 | QRV144F-1002A | CMF RESISTOR | 10.0KΩ,1/4W |
| R18 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| R19 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R21 | QRV144F-1182A | CMF RESISTOR | 11.8KΩ,1/4W |
| R22 | QRV144F-1002A | CMF RESISTOR | 10.0KΩ,1/4W |
| R23 | QRV144F-4023A | RESISTOR | 402KΩ,1/4W |
| R24 | QRD161J-471 | RESISTOR | 470Ω,1/6W |
| R26 | QRG029J-303A | OMF RESISTOR | 30KΩ,2W |

| # ⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| ⚠ | R27 | QRZ0077-220X | FUSIBLE RESISTOR | 22Ω,1/4W |
| | R29 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| ⚠ | C1 | QFZ9022-333 | MM CAPACITOR | 0.033μF,250 |
| ⚠ | | or QFZ9037-333 | M CAPACITOR | 0.033μF |
| ⚠ | C2 | QFZ9022-333 | MM CAPACITOR | 0.033μF,250 |
| ⚠ | | or QFZ9037-333 | M CAPACITOR | 0.033μF |
| ⚠ | C3 | QFZ9022-333 | MM CAPACITOR | 0.033μF,250 |
| ⚠ | | or QFZ9037-333 | M CAPACITOR | 0.033μF |
| ⚠ | C4 | QCZ9016-222M | CAPACITOR | 0.0022μF |
| ⚠ | C5 | QCZ9016-222M | CAPACITOR | 0.0022μF |
| ⚠ | C6 | QCZ9016-222M | CAPACITOR | 0.0022μF |
| ⚠ | C7 | QCZ9016-222M | CAPACITOR | 0.0022μF |
| | C8 | PECA0738-107 | E CAPACITOR | 100μF |
| | | or PECA0793-107 | E CAPACITOR | 100μF |
| | C9 | QCZ0212-472 | CAPACITOR | 0.0047μF,1KV |
| | | or QCY53AK-472 | CAPACITOR | 0.0047μF,1KV |
| | C10 | QCZ0213-101Z | CAPACITOR | 100PF |
| | C11 | PECA0780-224Z | M CAPACITOR | |
| | | or QFV11HJ-224 | TF CAPACITOR | 0.22μF,50V |
| | C12 | QFLA1HJ-682Z | M CAPACITOR | 0.0068μF,50V |
| | C13 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| | C14 | QEZ0156-127Z | E CAPACITOR | 120μF |
| | | or QEZ0135-127Z | E CAPACITOR | 120μF |
| | C15 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| | C16 | QEZ0104-396Z | E CAPACITOR | 39μF |
| | | or QEZ0141-396Z | E CAPACITOR | 39μF |
| | C17 | QETC1VM-336 | E CAPACITOR | 33μF,35V |
| | C18 | QCBB1HJ-271 | CAPACITOR | 270PF,50V |
| | C19 | QEZ0125-277 | E CAPACITOR | 270μF |
| | | or QEZ0138-277 | E CAPACITOR | 270μF |
| | C20 | QETC1EM-227 | E CAPACITOR | 220μF,25V |
| | C21 | QFN31HJ-103 | M CAPACITOR | 0.01μF,50V |
| | C22 | QEZ0105-228 | E CAPACITOR | 2200μF |
| | | or QEZ0137-228 | E CAPACITOR | 2200μF |
| | C23 | QETB1CM-228 | E CAPACITOR | 2200μF,16V |
| | C24 | QETC1JM-336 | E CAPACITOR | 33μF,63V |
| | C25 | QEZ0106-228 | E CAPACITOR | 2200μF |
| | | or QEZ0136-228 | E CAPACITOR | 2200μF |
| | C26 | QETB1AM-228 | E CAPACITOR | 2200μF,10V |
| | C27 | QFN31HJ-102 | M CAPACITOR | 0.001μF,50V |
| | C28 | QFLA1HJ-223Z | M CAPACITOR | 0.022μF,50V |
| | C29 | QFV11HJ-104 | MM CAPACITOR | 0.1μF,50V |
| | | or QFV41HJ-104 | TF CAPACITOR | 0.1μF,50V |
| ⚠ | C32 | QCZ9016-101K | CAPACITOR | 100PF |
| ⚠ | C33 | QCZ9016-101K | CAPACITOR | 100PF |
| ⚠ | C34 | QCZ9016-222M | CAPACITOR | 0.0022μF |
| ⚠ | C35 | QCZ9016-222M | CAPACITOR | 0.0022μF |
| | L1 | PU48530-100K | COIL | 10μH |
| | L2 | PELN0270-330KZ | COIL | 33μF |
| | L3 | PELN0270-330KZ | COIL | 33μF |
| | L4 | PELN0270-330KZ | COIL | 33μF |
| ⚠ | PC1 | PC111S | PHOTO COUPLER | |

| # ⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| ⚠ | T1 | PELN0542 | SW TRANS | |
| ⚠ | HS1 | PEME0843 | HEAT SINK | |
| ⚠ | HS2 | PU61191 | HEAT SINK(1) | |
| ⚠ | HS3 | PQ44774 | HEAT SINK | |
| | J1 | PEMC0742-010 | CONNECTOR, (BOARD TO BOARD) | |
| | J2 | PEMC0742-006 | CONNECTOR, (BOARD TO BOARD) | |
| ⚠ | LF1 | PU60347 | LINE FILTER | |
| ⚠ | | or PU61108 | LINE FILTER | |
| ⚠ | LF2 | PELN0255 | LINE FILTER | |
| ⚠ | | or PU59707 | LINE FILTER | |
| | SCW1 | SDSG3008Z | SCREW | |
| | SCW2 | DPSP3008Z | SCREW,X2 | |
| | SCW3 | SDSG3008Z | SCREW | |
| | CN1 | PU60417-106 | CONNECTOR | |
| ⚠ | CP1 | ICP-N10 | CIRCUIT PROTECTOR | |
| ⚠ | CP3 | ICP-N25 | CIRCUIT PROTECTOR | |

### – REGULATOR(1) BOARD ASSEMBLY<02> –

| # ⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | PWBA2 | PB10565A2-01 | REGULATOR BOARD(1) ASSY<02> | |
| | IC2 | LM358P | IC | |
| | | or XRA10358 | IC | |
| | | or BA10358 | IC | |
| | | or LM358N | IC | |
| | Q31 | 2SD2159(UV) | TRANSISTOR | |
| | Q32 | 2SB1068(KU) | TRANSISTOR | |
| | Q34 | 2SD1855(EF) | TRANSISTOR | |
| | Q36 | 2SD1796 | TRANSISTOR | |
| | | or 2SD1856 | TRANSISTOR | |
| | D35 | MTZV6.2A | ZENER DIODE | |
| | R31 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R32 | QRD161J-471 | RESISTOR | 470Ω,1/6W |
| | R33 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R34 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| | R35 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| | R36 | QVZ3521-222Z | V RESISTOR,SWD 5V | 2.2KΩ |
| | | or QVZ3521-222 | V RESISTOR | 2.2KΩ |
| | R37 | QRD161J-123 | RESISTOR | 12KΩ,1/6W |
| | R38 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R39 | QRD161J-112 | RESISTOR | 1.1KΩ,1/6W |
| | R40 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | R41 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| | R46 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R47 | QRD161J-682 | RESISTOR | 6.8KΩ,1/6W |
| | C41 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| | C42 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| | C43 | QEK61CM-107 | E CAPACITOR | 100μF,16V |
| | C44 | QEK61CM-107 | E CAPACITOR | 100μF,16V |
| | C45 | QFN31HJ-103 | M CAPACITOR | 0.01μF,50V |
| | C46 | QFN31HJ-103 | M CAPACITOR | 0.01μF,50V |
| | C47 | QEK61CM-107 | E CAPACITOR | 100μF,16V |
| ⚠ | HS1 | PQ44774-2 | HEAT SINK | |
| | J3 | PEMC0742-008 | CONNECTOR, (BOARD TO BOARD) | |
| | SCW1 | SDSG3008Z | SCREW | |
| | CN2 | PU58844-105 | CONNECTOR | |
| | CN3 | PU60417-109 | CONNECTOR | |
| | CN5 | PU60417-105 | CONNECTOR | |
| ⚠ | CP4 | ICP-N10 | CIRCUIT PROTECTOR | |
| ⚠ | CP5 | ICP-N25 | CIRCUIT PROTECTOR | |
| | TP | PU54983 | TEST PIN,X3 | |

### – REGULATOR(2) BOARD ASSEMBLY<18> –

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | PWBA3 | PB10565A3-01 | REGULATOR BOARD(2) ASSY<18> | |
| ⚠ | Q33 | DTB114ES | TRANSISTOR | |
| | Q35 | 2SB1068(KU) | TRANSISTOR | |
| | D30 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | R42 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R43 | QRD161J-272 | RESISTOR | 2.7KΩ,1/6W |
| | R44 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | C48 | QETC1CM-107 | E CAPACITOR | 100μF,16V |
| | C49 | QETC1AM-107 | E CAPACITOR | 100μF,10V |
| | C50 | QETC1JM-106 | E CAPACITOR | 10μF,63V |
| | CN4 | PU58844-103 | CONNECTOR | |
| | CN6 | PU60417-103 | CONNECTOR | |
| | CN7 | PU58844-102 | CONNECTOR | |

### – PRIMARY BOARD ASSEMBLY<60> –

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | PWBA4 | PB20555A-01 | PRIMARY BOARD ASSY<60> | |
| | D6 | 1SS133 | DIODE | |
| ⚠ | RY1 | PESW0555 | RELAY | |
| ⚠ | CL1 | PU57505 | FUSE CLIP,X4 | |
| | J4 | PU60894-102 | TERMINAL | |
| | J5 | PU60894-102 | TERMINAL | |
| | J6 | PU60894-102 | TERMINAL | |
| | CN8 | PU58844-2 | CONNECTOR | |
| ⚠ | CN12 | PU60250-2K | CONNECTOR | |
| ⚠ | CN13 | PU60250-2 | CONNECTOR | |
| ⚠ | F1 | QMF51E2-1R25 | FUSE | T1.2A |
| ⚠ | | or QMF51E2-1R25J1 | FUSE | T1.2A |
| ⚠ | F2 | QMF51E2-2R0 | FUSE | T2.0A |
| ⚠ | | or QMF51E2-2R0J1 | FUSE | T2.0A |

******************************

## A/S/M BOARD ASSEMBLY <04>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|---|
| | PWBA | PB10551A-01 | A/S/M BOARD ASSY |
| | BKT1 | PQ44693 | BRACKET (1),X2 |
| | BKT2 | PQ44694-1-2 | BRACKET(2) |
| | CL1 | PU59311-4 | WIRE CLAMP |
| | CL2 | PEME0802 | CLAMP,X3 |
| | JA1 | PEMC0760 | PIN JACK |
| | JA2 | PEMC0761 | PIN JACK(SW) |
| | JP1 | PU61012 | MINI JACK |
| | SCW1 | SDSF2608Z | SCREW,X2 |
| | SCW2 | SDSG2606Z | SCREW,X3 |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| ⚠ TB1 | PQ21025-8 | TERMINAL BOARD(2) | |
| TP | PU55774 | TEST PIN,X2 | |

## - AUDIO SW SECTION -

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| IC1 | XRA15218 | IC | |
| | or BA15218 | IC | |
| IC2 | XRA15218 | IC | |
| | or BA15218 | IC | |
| IC3 | LA7222 | IC | |
| IC4 | LA7222 | IC | |
| IC5 | XRA15218 | IC | |
| | or BA15218 | IC | |
| IC6 | XRA15218 | IC | |
| | or BA15218 | IC | |
| Q1 | 2SC3311A(RS) | TRANSISTOR | |
| Q2 | DTA144ES | TRANSISTOR | |
| Q3 | 2SC1740S(RS) | TRANSISTOR | |
| | or 2SC3199(G) | TRANSISTOR | |
| Q4 | 2SC1740S(RS) | TRANSISTOR | |
| | or 2SC3199(G) | TRANSISTOR | |
| D2 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D3 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D4 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D5 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D7 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| R1 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R2 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R3 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R4 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| R5 | QRD161J-823 | RESISTOR | 82KΩ,1/6W |
| R6 | QRD161J-221 | RESISTOR | 220Ω,1/6W |
| R7 | QRD161J-512 | RESISTOR | 5.1KΩ,1/6W |
| R8 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R9 | QRD161J-683 | RESISTOR | 68KΩ,1/6W |
| R10 | QRD161J-154 | RESISTOR | 150KΩ,1/6W |
| R11 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R12 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R13 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| R14 | QRD161J-124 | RESISTOR | 120KΩ,1/6W |
| R15 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| R16 | QRD161J-124 | RESISTOR | 120KΩ,1/6W |
| R17 | QRD161J-154 | RESISTOR | 150KΩ,1/6W |
| R18 | QRD161J-184 | RESISTOR | 180KΩ,1/6W |
| R19 | QRD161J-154 | RESISTOR | 150KΩ,1/6W |
| R20 | QRD161J-184 | RESISTOR | 180KΩ,1/6W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R21 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R22 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| R23 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R24 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| R25 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R26 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R27 | QRD161J-392 | RESISTOR | 3.9KΩ,1/6W |
| R28 | QRD161J-392 | RESISTOR | 3.9KΩ,1/6W |
| R29 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R30 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R31 | QRD161J-151 | RESISTOR | 150Ω,1/6W |
| R32 | QRD161J-151 | RESISTOR | 150Ω,1/6W |
| R33 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R34 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R35 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| R36 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| R37 | QRD161J-392 | RESISTOR | 3.9KΩ,1/6W |
| R38 | QRD161J-392 | RESISTOR | 3.9KΩ,1/6W |
| R39 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R40 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R41 | QRD161J-683 | RESISTOR | 68KΩ,1/6W |
| R42 | QRD161J-823 | RESISTOR | 82KΩ,1/6W |
| R43 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R44 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R45 | QRD161J-154 | RESISTOR | 150KΩ,1/6W |
| R46 | QRD161J-154 | RESISTOR | 150KΩ,1/6W |
| C1 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C2 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C5 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C6 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C7 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C8 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C9 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C10 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C11 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C12 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C13 | QETC1CM-337 | E CAPACITOR | 330μF,16V |
| C14 | QETC1CM-337 | E CAPACITOR | 330μF,16V |
| C15 | QETC1CM-226 | E CAPACITOR | 22μF,16V |
| C16 | QETC1CM-226 | E CAPACITOR | 22μF,16V |
| C17 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C18 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C19 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C20 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C21 | QENC1CM-106 | NP E CAPACITOR | 10μF,16V |
| C22 | QENC1CM-106 | NP E CAPACITOR | 10μF,16V |
| C23 | QETC1AM-476 | E CAPACITOR | 47μF,10V |
| C24 | QETC1AM-476 | E CAPACITOR | 47μF,10V |
| C27 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C28 | QCBB1HJ-151 | CAPACITOR | 150PF,50V |
| C29 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C30 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C31 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C32 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C33 | QETC1CM-476 | E CAPACITOR | 47μF,16V |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | C34 | QETC1HM-105 | E CAPACITOR | 1$\mu$F,50V |
| | C35 | QETC1HM-105 | E CAPACITOR | 1$\mu$F,50V |
| | L1 | PU59152-R22J | COIL | 0.22$\mu$H |
| | L2 | PU59152-R22J | COIL | 0.22$\mu$H |
| | LC1 | PU59885-102 | N FILTER | |
| | LC2 | PU59885-102 | N FILTER | |
| | CN1 | PU58844-4 | CONNECTOR | |
| | CN2 | PU58844-6 | CONNECTOR | |
| | CN3 | PU58844-5 | CONNECTOR | |
| | CN4 | PEMC0714-015 | CONNECTOR | |
| | CN5 | PU58844-5 | CONNECTOR | |
| | CN6 | PU58844-6R | CONNECTOR | |
| | CN7 | PU58844-6Y | CONNECTOR | |
| | CN8 | PU58844-3 | CONNECTOR | |

## – SERVO SECTION –

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | IC401 | HD49733NT | IC | |
| | | or HD49733ANT | IC | |
| | IC441 | LM358N | IC | |
| | | or LM358P | IC | |
| | | or UPC358C | IC | |
| | IC442 | MC14066BCP | IC | |
| | | or BU4066B | IC | |
| | | or CD4066BE | IC | |
| | IC451 | BA7039 | IC | |
| | | or XRA7039 | IC | |
| | Q401 | 2SA1267(YG)-TJK | TRANSISTOR | |
| | | or 2SA1309(QRS) | TRANSISTOR | |
| | | or 2SA933S(QRS) | TRANSISTOR | |
| | Q402 | DTC144ES | TRANSISTOR | |
| | Q441 | DTC124ES | TRANSISTOR | |
| | Q442 | DTC124ES | TRANSISTOR | |
| | D402 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D403 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D404 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D405 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D406 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D407 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D408 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D411 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D412 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D451 | 1SS133 | DIODE | |
| | R401 | QRD161J-821 | RESISTOR | 820Ω,1/6W |
| | R402 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R403 | QRD161J-105 | RESISTOR | 1MΩ,1/6W |
| | R404 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R405 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R406 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R407 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| | R408 | QRD161J-225 | RESISTOR | 2.2MΩ,1/6W |
| | R409 | QRD161J-683 | RESISTOR | 68KΩ,1/6W |
| | R410 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| | R411 | QRD161J-123 | RESISTOR | 12KΩ,1/6W |
| | R412 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R413 | QRD161J-392 | RESISTOR | 3.9KΩ,1/6W |
| | R414 | QRD161J-105 | RESISTOR | 1MΩ,1/6W |
| | R415 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| | R417 | QRD161J-224 | RESISTOR | 220KΩ,1/6W |
| | R418 | QRD161J-474 | RESISTOR | 470KΩ,1/6W |
| | R419 | QRD161J-823 | RESISTOR | 82KΩ,1/6W |
| | R420 | QRD161J-105 | RESISTOR | 1MΩ,1/6W |
| | R421 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| | R422 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| | R423 | QRD161J-335 | RESISTOR | 3.3MΩ,1/6W |
| | R424 | QRD161J-334 | RESISTOR | 330KΩ,1/6W |
| | R425 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R426 | QRD161J-822 | RESISTOR | 8.2KΩ,1/6W |
| | R428 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| | R429 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| | R431 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R434 | QRD161J-274 | RESISTOR | 270KΩ,1/6W |
| | R435 | QRD161J-274 | RESISTOR | 270KΩ,1/6W |
| | R441 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| | R442 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| | R443 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R444 | QRD161J-393 | RESISTOR | 39KΩ,1/6W |
| | R445 | QRD161J-105 | RESISTOR | 1MΩ,1/6W |
| | R446 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R447 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R448 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R449 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R451 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R452 | QRD161J-182 | RESISTOR | 1.8KΩ,1/6W |
| | R453 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R455 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R456 | QRD161J-562 | RESISTOR | 5.6KΩ,1/6W |
| | R458 | QRD161J-184 | RESISTOR | 180KΩ,1/6W |
| | R462 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C401 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| C402 | QEK61AM-226 | E CAPACITOR | 22μF,10V |
| C403 | QEK61AM-226 | E CAPACITOR | 22μF,10V |
| C404 | QCBB1HJ-271 | CAPACITOR | 270PF,50V |
| C405 | QCBB1HJ-561 | CAPACITOR | 560PF,50V |
| C406 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| C407 | QEK61HM-105 | E CAPACITOR | 1μF,50V |
| C408 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| C409 | QFV71HJ-563 | TF CAPACITOR | 0.056μF,50V |
| | or QFN31HJ-563 | M CAPACITOR | 0.056μF,50V |
| C410 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| C412 | QCFB1EZ-223 | CAPACITOR | 0.022μF,25V |
| C413 | QEK61AM-226 | E CAPACITOR | 22μF,10V |
| C414 | QFV71HJ-224 | TF CAPACITOR | 0.22μF,50V |
| | or QFN31HJ-224 | M CAPACITOR | 0.22μF,50V |
| C415 | QFLC1HJ-682Z | M CAPACITOR | 0.0068μF,50V |
| | or QFN31HJ-682 | M CAPACITOR | 0.0068μF,50V |
| C416 | QEK61EM-475 | E CAPACITOR | 4.7μF,25V |
| C417 | QEK61EM-475 | E CAPACITOR | 4.7μF,25V |
| C418 | QEK61CM-106 | E CAPACITOR | 10μF,16V |
| C419 | QEK61CM-106 | E CAPACITOR | 10μF,16V |
| C420 | QFV71HJ-223 | TF CAPACITOR | 0.022μF,50V |
| | or QFN31HJ-223 | M CAPACITOR | 0.022μF,50V |
| C421 | QFV71HJ-184 | TF CAPACITOR | 0.18μF,50V |
| C422 | QCBB1HJ-471 | CAPACITOR | 470PF,50V |
| C423 | QFLC1HJ-682Z | M CAPACITOR | 0.0068μF,50V |
| | or QFN31HJ-682 | M CAPACITOR | 0.0068μF,50V |
| C426 | QCBB1HJ-181 | CAPACITOR | 180PF,50V |
| C427 | QFV71HJ-473 | TF CAPACITOR | 0.047μF,50V |
| | or QFN31HJ-473 | M CAPACITOR | 0.047μF,50V |
| C441 | QEK61CM-106 | E CAPACITOR | 10μF,16V |
| C451 | QCVB1CM-103 | CAPACITOR | 0.01μF,16V |
| C452 | QCVB1CM-103 | CAPACITOR | 0.01μF,16V |
| C453 | QCVB1CM-103 | CAPACITOR | 0.01μF,16V |
| C454 | QFV71HJ-104 | TF CAPACITOR | 0.1μF,50V |
| C455 | QCVB1CM-103 | CAPACITOR | 0.01μF,16V |
| C456 | QFV71HJ-104 | TF CAPACITOR | 0.1μF,50V |
| C457 | QCVB1CM-103 | CAPACITOR | 0.01μF,16V |
| C458 | QEK61AM-226 | E CAPACITOR | 22μF,10V |
| C459 | QCVB1CM-103 | CAPACITOR | 0.01μF,16V |
| L451 | PU59152-270J | COIL | 27μH |
| ⚠ CP401 | ICP-N15 | CIRCUIT PROTECTOR | |
| CN401 | PU58844-3 | CONNECTOR | |
| CN402 | PU59555-4 | CONNECTOR | |
| CN403 | PU58844-8 | CONNECTOR | |
| CN404 | PEMC0714-015 | CONNECTOR | |

### – MECHACON SECTION –

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| IC601 | M37524M4-126SP | IC | |
| IC603 | M50255P | IC | |
| IC604 | CAT93C46P | IC | |
| Q601 | 2SB1256 | TRANSISTOR | |
| Q602 | 2SC3199(GB)-TJK | TRANSISTOR | |
| Q604 | DTC124ES | TRANSISTOR | |
| D601 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D602 | 11ES2 | DIODE | |
| | or ERA15-02 | DIODE | |
| | or S5688G | DIODE | |
| | or 1SR139-200 | DIODE | |
| D603 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D604 | MTZ7.5B | ZENER DIODE | |
| | or UZ7.5BSB | ZENER DIODE | |
| | or HZS7.5EB2 | ZENER DIODE | |
| D605 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D606 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D607 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D610 | MTZ7.5B | ZENER DIODE | |
| | or HZS7.5EB2 | ZENER DIODE | |
| R601 | QRD161J-332 | RESISTOR | 3.3KΩ,1/6W |
| R602 | QRD161J-332 | RESISTOR | 3.3KΩ,1/6W |
| R603 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R604 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R605 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R606 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R607 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R608 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R609 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R611 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R612 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R613 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R614 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R615 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R616 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R617 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R618 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R619 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R620 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R621 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R622 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R623 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R624 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R625 | QRD161J-105 | RESISTOR | 1MΩ,1/6W |
| R626 | QRD161J-681 | RESISTOR | 680Ω,1/6W |
| R627 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R628 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R629 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R630 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R631 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R632 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R633 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R634 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | R635 | QRD161J-563 | RESISTOR | 56KΩ,1/6W |
| | R636 | QRD161J-154 | RESISTOR | 150KΩ,1/6W |
| | R637 | QRD161J-333 | RESISTOR | 33KΩ,1/6W |
| | R638 | QRD161J-303 | RESISTOR | 30KΩ,1/6W |
| | R639 | QRD161J-224 | RESISTOR | 220KΩ,1/6W |
| | R640 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| | R641 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R642 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R643 | QRD161J-333 | RESISTOR | 33KΩ,1/6W |
| | R644 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R645 | QRD161J-471 | RESISTOR | 470Ω,1/6W |
| | R646 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R647 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R648 | QRD161J-391 | RESISTOR | 390Ω,1/6W |
| | R649 | QRD161J-182 | RESISTOR | 1.8KΩ,1/6W |
| | R650 | QRD161J-221 | RESISTOR | 220Ω,1/6W |
| | R651 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R652 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | RA601 | QRB045J-103XM | RESISTOR ARRAY | |
| | | or QRB045J-103XF | RESISTOR ARRAY | |
| | C601 | QCFB1EZ-223 | CAPACITOR | 0.022μF,25V |
| | C602 | QEK61EM-335 | E CAPACITOR | 3.3μF,25V |
| | C603 | QCC11EJ-104 | CAPACITOR | 0.1μF,25V |
| | C604 | QEK61HM-105 | E CAPACITOR | 1μF,50V |
| | C605 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| | C606 | QCBB1HJ-121 | CAPACITOR | 120PF,50V |
| | C608 | QCC11EJ-104 | CAPACITOR | 0.1μF,25V |
| | C609 | QCBB1HJ-101 | CAPACITOR | 100PF,50V |
| | L601 | PU59152-2R2J | COIL | 2.2μH |
| ⚠ | CF601 | PEVB0340 | RESONATOR | |
| ⚠ | CP601 | ICP-N25 | CIRCUIT PROTECTOR | |
| ⚠ | CP602 | ICP-N38 | CIRCUIT PROTECTOR | |
| | CN601 | PEMC0722-018 | WIRE TRAP | |
| | | or PEMC0753-018 | WIRE TRAP | |
| | CN602 | PU59555-4 | CONNECTOR | |
| | CN604 | PU60417-7 | CONNECTOR | |
| | CN605 | PU60417-9 | CONNECTOR | |
| | CN607 | PU60417-4 | CONNECTOR | |
| | CN608 | PU60417-4 | CONNECTOR | |
| | CN609 | PU60417-10 | CONNECTOR | |
| | CN610 | PEMC0714-011 | CONNECTOR | |
| | CN611 | PU60417-3 | CONNECTOR | |
| | CN612 | PU60417-4 | CONNECTOR | |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|

********************************

## VIDEO UNIT BOARD ASSEMBLY <05>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | PWBA | PB10580A-01 | VIDEO UNIT BOARD ASSY | |
| | TP | PU57545 | TEST PIN,X14 | |
| | SLD1 | PU61177 | SHIELD CASE | |
| | SLD2 | PU61178 | SHIELD PLATE | |

### - Y SECTION -

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | IC401 | PB20432D | Y MODULE BOARD ASSY | |
| | IC402 | CXL5003M | IC | |
| | IC403 | LVA521S | IC | |
| | IC404 | MC74HC4538N | IC | |
| | IC405 | CD4066BE | IC | |
| | | or BU4066B | IC | |
| | IC406 | TC4S81F | IC | |
| | IC407 | TC4S01F | IC | |
| | IC408 | TC4S30F | IC | |
| | IC409 | TC4S71F | IC | |
| | Q401 | 2SC4081(QRS) | TRANSISTOR | |
| | Q402 | 2SC4081(QRS) | TRANSISTOR | |
| | Q403 | 2SC4081(QRS) | TRANSISTOR | |
| | Q404 | 2SC4081(QRS) | TRANSISTOR | |
| | Q407 | 2SA1576(QRS) | TRANSISTOR | |
| | Q408 | DTC144WU | TRANSISTOR | |
| | Q409 | 2SA1576(QRS) | TRANSISTOR | |
| | Q410 | DTC144EU | TRANSISTOR | |
| | Q411 | DTA144EU | TRANSISTOR | |
| | Q412 | DTC144WU | TRANSISTOR | |
| | Q413 | DTC124EU | TRANSISTOR | |
| | Q414 | DTC144WU | TRANSISTOR | |
| | Q415 | DTC144WU | TRANSISTOR | |
| | D401 | DAP202U | DIODE | |
| | D404 | DAN202U | DIODE | |
| | D405 | DAN202U | DIODE | |
| | D406 | DAN202U | DIODE | |
| | D407 | DAN202U | DIODE | |
| | D408 | DAN202U | DIODE | |
| | R401 | QRS188J-122YN | RESISTOR | 1.2KΩ,1/8W |
| | R402 | QRS188J-272YN | RESISTOR | 2.7KΩ,1/8W |
| | R403 | QRSA08J-392YN | RESISTOR | 3.9KΩ,1/10W |
| | R404 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| | R405 | QRS188J-182YN | RESISTOR | 1.8KΩ,1/8W |
| | R406 | QRSA08J-271YN | RESISTOR | 270Ω,1/10W |
| | R407 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R408 | QRSA08J-105YN | RESISTOR | 1MΩ,1/10W |
| R409 | QRSA08J-475YN | RESISTOR | 4.7MΩ,1/10W |
| R410 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R412 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R413 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R414 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R415 | QRSA08J-242YN | RESISTOR | 2.4KΩ,1/10W |
| R416 | QVZ3518-102 | V RESISTOR,SUB EMPHA INPUT LEV | 1KΩ |
| R417 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R419 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R420 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R421 | QRS188J-103YN | RESISTOR | 10KΩ,1/8W |
| R422 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R423 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R425 | QRSA08F-431YN | RESISTOR | 430Ω,1/10W |
| R427 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R428 | QRSA08J-392YN | RESISTOR | 3.9KΩ,1/10W |
| R429 | QRSA08J-274YN | RESISTOR | 270KΩ,1/10W |
| R430 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R431 | QRSA08J-475YN | RESISTOR | 4.7MΩ,1/10W |
| R433 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R434 | QRSA08J-393YN | RESISTOR | 39KΩ,1/10W |
| R435 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R436 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R437 | QRSA08J-183YN | RESISTOR | 18KΩ,1/10W |
| R438 | QRSA08J-562YN | RESISTOR | 5.6KΩ,1/10W |
| R439 | QRSA08J-562YN | RESISTOR | 5.6KΩ,1/10W |
| R440 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R441 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R442 | QRSA08J-911YN | RESISTOR | 910Ω,1/10W |
| R443 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R444 | QVZ3518-102 | V RESISTOR,YNR BALANCE | 1KΩ |
| R445 | QRSA08J-242YN | RESISTOR | 2.4KΩ,1/10W |
| R446 | QRSA08J-242YN | RESISTOR | 2.4KΩ,1/10W |
| R447 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R448 | QRS188J-182YN | RESISTOR | 1.8KΩ,1/8W |
| R449 | QRSA08J-512YN | RESISTOR | 5.1KΩ,1/10W |
| R450 | QRS188J-101YN | RESISTOR | 100Ω,1/8W |
| R451 | QRSA08J-104YN | RESISTOR | 100KΩ,1/10W |
| R453 | QRSA08J-683YN | RESISTOR | 68KΩ,1/10W |
| R454 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R455 | QRSA08J-910YN | RESISTOR | 91Ω,1/10W |
| R456 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| C401 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C402 | QCSA1HJ-7R0 | CAPACITOR | 7PF,50V |
| C403 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C404 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C405 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C406 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C407 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C408 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C409 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C410 | QETC1CM-476 | E CAPACITOR | 47μF,16V |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C411 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C412 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C413 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C414 | QCYA1HK-223 | CAPACITOR | 0.022μF,50V |
| C415 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C416 | QETC1CM-226 | E CAPACITOR | 22μF,16V |
| C417 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C418 | QETC1HM-225 | E CAPACITOR | 2.2μF,50V |
| C419 | QETC1HM-225 | E CAPACITOR | 2.2μF,50V |
| C420 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C421 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C422 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C423 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C424 | QCSA1HJ-100 | CAPACITOR | 10PF,50V |
| C425 | QCTA1CH-181 | CAPACITOR | 180PF,16V |
| C426 | QCTA1CH-471 | CAPACITOR | 470PF,16V |
| C429 | QCSA1HJ-300 | CAPACITOR | 30PF,50V |
| C430 | QCSA1HJ-620 | CAPACITOR | 62PF,50V |
| C431 | QCSA1HJ-151 | CAPACITOR | 150PF,50V |
| C433 | QCYA1HK-473 | CAPACITOR | 0.047μF,50V |
| C435 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C436 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C437 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C438 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C439 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C440 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C441 | QCSA1HJ-271 | CAPACITOR | 270PF,50V |
| C442 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| C443 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C444 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C446 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C447 | QETC0JM-227 | E CAPACITOR | 220μF,6.3V |
| C449 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C450 | QCSA1HJ-101 | CAPACITOR | 100PF,50V |
| C451 | QCSA1HJ-221 | CAPACITOR | 220PF,50V |
| C452 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C453 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C454 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C456 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C457 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C458 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C459 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C460 | QCTA1CH-680 | CAPACITOR | 68PF,16V |
| C461 | QCSA1HJ-221 | CAPACITOR | 220PF,50V |
| L401 | PU48530-101K | COIL | 100μH |
| L402 | PU48530-101K | COIL | 100μH |
| L403 | PU59153-101K | COIL | 100μH |
| L404 | PU59153-101K | COIL | 100μH |
| L405 | PU59988-181J | COIL | 180μH |
| L406 | PU59153-101K | COIL | 100μH |
| L407 | PU59153-101K | COIL | 100μH |
| L408 | PU59988-120J | COIL | 12μH |
| L410 | PU59988-151JY | COIL | 150μH |
| L411 | PU48530-471K | COIL | 470μH |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| LPF401 | PELN0566 | LOW PASS FILTER | |
| LPF402 | PU60737 | LOW PASS FILTER | |
| LPF403 | PU60812 | LOW PASS FILTER | |
| CN401 | PU60910-12 | CONNECTOR | |
| | or PU60727-12 | CONNECTOR | |
| CN402 | PU60910-14 | CONNECTOR | |
| | or PU60727-14 | CONNECTOR | |

## - COLOR SECTION -

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| IC501 | PB20463A-01 | COLOR MODULE BOARD ASSY | |
| IC502 | LVA521S | IC | |
| IC503 | TC4S01F | IC | |
| Q501 | 2SA1576(QRS) | TRANSISTOR | |
| Q502 | DTC144WU | TRANSISTOR | |
| Q504 | 2SC4081(QRS) | TRANSISTOR | |
| Q505 | DTC144WU | TRANSISTOR | |
| Q506 | DTC144WU | TRANSISTOR | |
| Q509 | DTA124EU | TRANSISTOR | |
| Q510 | DTC144WU | TRANSISTOR | |
| Q513 | DTC114EU | TRANSISTOR | |
| Q514 | DTC144WU | TRANSISTOR | |
| Q515 | DTC144WU | TRANSISTOR | |
| Q516 | 2SC4081(QRS) | TRANSISTOR | |
| Q517 | 2SC4081(QRS) | TRANSISTOR | |
| Q519 | 2SC4081(QRS) | TRANSISTOR | |
| Q520 | 2SC4081(QRS) | TRANSISTOR | |
| Q521 | 2SC4081(QRS) | TRANSISTOR | |
| Q522 | DTC144WU | TRANSISTOR | |
| Q524 | 2SA1576(QRS) | TRANSISTOR | |
| Q525 | 2SA1576(QRS) | TRANSISTOR | |
| Q527 | 2SA1576(QRS) | TRANSISTOR | |
| Q528 | DTC144WU | TRANSISTOR | |
| Q529 | DTC144WU | TRANSISTOR | |
| Q530 | DTC144WU | TRANSISTOR | |
| D505 | DAN202U | DIODE | |
| D507 | DAN202U | DIODE | |
| D508 | DAP202U | DIODE | |
| D509 | DAN202U | DIODE | |
| D510 | DAN202U | DIODE | |
| R503 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R504 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R505 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R506 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R508 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R509 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R511 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R512 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R513 | QRSA08J-124YN | RESISTOR | 120KΩ,1/10W |
| R514 | QRSA08J-125YN | RESISTOR | 1.2MΩ,1/10W |
| R515 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |
| R516 | QRSA08J-393YN | RESISTOR | 39KΩ,1/10W |
| R518 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R519 | QRSA08J-104YN | RESISTOR | 100KΩ,1/10W |
| R520 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R522 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R523 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R524 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R525 | QRSA08J-335YN | RESISTOR | 3.3MΩ,1/10W |
| R526 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R527 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R528 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R529 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R530 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R531 | QRS188J-104YN | RESISTOR | 100KΩ,1/8W |
| R532 | QRSA08J-104YN | RESISTOR | 100KΩ,1/10W |
| R533 | QRSA08J-225YN | RESISTOR | 2.2MΩ,1/10W |
| R534 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R535 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R536 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R537 | QRS188J-182YN | RESISTOR | 1.8KΩ,1/8W |
| R538 | QRS188J-102YN | RESISTOR | 1KΩ,1/8W |
| R540 | QRD161J-562 | RESISTOR | 5.6KΩ,1/6W |
| R541 | QRSA08J-562YN | RESISTOR | 5.6KΩ,1/10W |
| R542 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |
| R543 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R544 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R545 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R546 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R547 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R548 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R551 | QRS188J-102YN | RESISTOR | 1KΩ,1/8W |
| R552 | QRS188J-102YN | RESISTOR | 1KΩ,1/8W |
| R553 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R554 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R555 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R556 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R557 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R558 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R559 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R560 | QRS188J-333YN | RESISTOR | 33KΩ,1/8W |
| R561 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R562 | QRS188J-222YN | RESISTOR | 2.2KΩ,1/8W |
| R563 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R564 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| C501 | QCSA1HJ-100 | CAPACITOR | 10PF,50V |
| C502 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C503 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C504 | QCSA1HJ-220 | CAPACITOR | 22PF,50V |
| C506 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C507 | QCSA1HJ-331 | CAPACITOR | 330PF,50V |
| C508 | QCSA1HJ-121 | CAPACITOR | 120PF,50V |
| C509 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C510 | QCSA1HJ-220 | CAPACITOR | 22PF,50V |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C511 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C512 | QETC1EM-335 | E CAPACITOR | 3.3μF,25V |
| C513 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C514 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C517 | QFN31HJ-823 | M CAPACITOR | 0.082μF,50V |
| C518 | QCYA1HJ-822 | CAPACITOR | 0.0082μF,50V |
| C519 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C520 | QCYA1HJ-822 | CAPACITOR | 0.0082μF,50V |
| C521 | QETC1HM-335 | E CAPACITOR | 3.3μF,50V |
| C522 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| C523 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C524 | QETC1HM-224 | E CAPACITOR | 0.22μF,50V |
| C525 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C526 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C527 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C528 | QETC1HM-104 | E CAPACITOR | 0.1μF,50V |
| C529 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C530 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C531 | QCYA1HK-223 | CAPACITOR | 0.022μF,50V |
| C534 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C535 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C536 | QCY81HK-103 | CAPACITOR | 0.01μF,50V |
| C537 | QCSA1HJ-470 | CAPACITOR | 47PF,50V |
| C538 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C539 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C540 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C541 | QCSA1HJ-330 | CAPACITOR | 33PF,50V |
| C542 | QCSA1HJ-390 | CAPACITOR | 39PF,50V |
| C543 | QFN31HJ-473 | M CAPACITOR | 0.047μF,50V |
| C545 | QCSA1HJ-560 | CAPACITOR | 56PF,50V |
| C546 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C550 | QCYA1HK-682 | CAPACITOR | 0.0068μF,50V |
| C551 | QCYA1HK-222 | CAPACITOR | 0.0022μF,50V |
| C552 | QCSA1HJ-820 | CAPACITOR | 82PF,50V |
| C553 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C554 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C555 | QCY81HK-103 | CAPACITOR | 0.01μF,50V |
| C556 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C557 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C558 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C559 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C560 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C561 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C563 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C564 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| ⚠ L501 | PU48530-181J | COIL | 180μH |
| L502 | PU59988-680J | COIL | 68μH |
| L503 | PU59988-150J | COIL | 15μH |
| L504 | PU59988-820J | COIL | 82μH |
| L505 | PU59988-1R0JY | COIL | 1μH |
| L506 | PU59988-100J | COIL | 10μH |
| L507 | PU59988-330J | COIL | 33μH |
| ⚠ L509 | PU48530-181J | COIL | 180μH |
| ⚠ L511 | PU48530-181J | COIL | 180μH |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| L512 | PU48530-101K | COIL | 100μH |
| L513 | PU48530-101K | COIL | 100μH |
| L514 | PU59988-390J | COIL | 39μH |
| L515 | PU48530-222J | COIL | 2.2mH |
| L516 | PU59988-221J | COIL | 220μH |
| L517 | PU48530-821J | COIL | 820μH |
| EQ501 | PU60811 | EQUALIZER | |
| EQ502 | PU53501-13 | EQUALIZER | |
| LPF501 | PU58022 | LOW PASS FILTER | |
| BPF501 | PELN0396 | BAND PASS FILTER | |
| BPF502 | PU60654 | BAND PASS FILTER | |
| | or PU60654-2 | BAND PASS FILTER | |
| CF501 | PU57073 | CERAMIC FILTER | |
| DL501 | PU58971-3 | 2H DELAY LINE | |
| ⚠ X501 | PU60653 | CRYSTAL UNITS | |
| CN501 | PU58844-3R | CONNECTOR | |
| CN502 | PU58844-8 | CONNECTOR | |
| CN503 | PU58844-8 | CONNECTOR | |
| CN504 | PU58844-3 | CONNECTOR | |
| CN506 | PU60417-4 | CONNECTOR | |
| CN507 | PU58844-6 | CONNECTOR | |
| CN510 | PU58844-2 | CONNECTOR | |

## – SECAM DETECTOR SECTION –

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| IC601 | XRA7106LS | IC | |
| | or BA7106LS | IC | |
| Q601 | DTC144WU | TRANSISTOR | |
| R601 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R602 | QRSA08J-273YN | RESISTOR | 27KΩ,1/10W |
| R603 | QRSA08J-914YN | RESISTOR | 910KΩ,1/10W |
| R604 | QRSA08J-104YN | RESISTOR | 100KΩ,1/10W |
| C601 | QCSA1HJ-471 | CAPACITOR | 470PF,50V |
| C602 | QCSA1HJ-471 | CAPACITOR | 470PF,50V |
| C603 | QCTA1CH-470 | CAPACITOR | 47PF,16V |
| C604 | QCSA1HJ-5R0 | CAPACITOR | 5PF,50V |
| C606 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C607 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C608 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C609 | QETC1EM-335 | E CAPACITOR | 3.3μF,25V |
| C610 | QCSA1HJ-471 | CAPACITOR | 470PF,50V |
| C611 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C615 | QCYA1HK-472 | CAPACITOR | 0.0047μF,50V |
| C616 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| L601 | PU48530-101K | COIL | 100μH |
| LC601 | PU60655 | V COIL,SECAM DET | |

*********************************

## TUNER IF BOARD ASSEMBLY <07>

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| PWBA | PB10139K-01 | IF BOARD ASSY | |
| IC1 | M51419ASP | IC | |
| Q2 | 2SC2636S,T | TRANSISTOR | |
| Q3 | 2SC3936(BC) | TRANSISTOR | |
| Q4 | 2SC3932(ST) | TRANSISTOR | |
| Q5 | 2SC3936(BC) | TRANSISTOR | |
| Q6 | 2SC2636S,T | TRANSISTOR | |
| Q8 | DTC144EU | TRANSISTOR | |
| Q11 | 2SB1219(RS) | TRANSISTOR | |
| Q12 | 2SD1293M(QR) | TRANSISTOR | |
| Q13 | DTC114EU | TRANSISTOR | |
| Q14 | 2SC3936(BC) | TRANSISTOR | |
| Q16 | 2SK381(C) | FE TRANSISTOR | |
| Q17 | 2SA564S | TRANSISTOR | |
| | or 2SA564AS | TRANSISTOR | |
| Q18 | DTC144EU | TRANSISTOR | |
| | or UN5213 | TRANSISTOR | |
| Q19 | 2SB1219(RS) | TRANSISTOR | |
| Q20 | 2SD1819(RS) | TRANSISTOR | |
| Q22 | DTC144ES | TRANSISTOR | |
| D1 | ND487C2-3R | BARRIER DIODE | |
| D2 | MA157 | DIODE | |
| D3 | RD10ES-T1B1 | ZENER DIODE | |
| D4 | 1SS133 | DIODE | |
| D5 | 1SS133 | DIODE | |
| D6 | MA165 | DIODE | |
| D7 | MTZ10D | ZENER DIODE | |
| R1 | NRSA63J-471N | RESISTOR | 470Ω,1/16W |
| R2 | QVZ3531-153 | V RESISTOR,DBM BAL | 15KΩ |
| R3 | NRSA63J-153N | RESISTOR | 15KΩ,1/16W |
| R4 | NRSA63J-153N | RESISTOR | 15KΩ,1/16W |
| R5 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R6 | QRD181J-331 | RESISTOR | 330Ω,1/8W |
| R7 | NRSA63J-102N | RESISTOR | 1KΩ,1/16W |
| R8 | NRSA63J-221N | RESISTOR | 220Ω,1/16W |
| R9 | NRSA63J-242N | RESISTOR | 2.4KΩ,1/16W |
| R10 | NRSA63J-682N | RESISTOR | 6.8KΩ,1/16W |
| R11 | NRSA63J-391N | RESISTOR | 390Ω,1/16W |
| R12 | NRSA63J-101N | RESISTOR | 100Ω,1/16W |
| R13 | NRSA63J-101N | RESISTOR | 100Ω,1/16W |
| R14 | NRSA63J-560N | RESISTOR | 56Ω,1/16W |
| R15 | NRSA63J-222N | RESISTOR | 2.2KΩ,1/16W |
| R16 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| R17 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| R18 | NRSA63J-222N | RESISTOR | 2.2KΩ,1/16W |
| R19 | NRSA63J-622N | RESISTOR | 6.2KΩ,1/16W |
| R20 | NRSA63J-511N | RESISTOR | 510Ω,1/16W |
| R21 | NRSA63J-561N | RESISTOR | 560Ω,1/16W |
| R22 | NRSA63J-101N | RESISTOR | 100Ω,1/16W |
| R23 | NRSA63J-681N | RESISTOR | 680Ω,1/16W |
| R24 | QRSA08J-271YN | RESISTOR | 270Ω,1/10W |
| R25 | QRSA08J-271YN | RESISTOR | 270Ω,1/10W |
| R26 | NRSA63J-103N | RESISTOR | 10KΩ,1/16W |
| R27 | NRSA63J-391N | RESISTOR | 390Ω,1/16W |
| R28 | NRSA63J-562N | RESISTOR | 5.6KΩ,1/16W |
| R30 | NRSA63J-682N | RESISTOR | 6.8KΩ,1/16W |
| R31 | QVZ3518-103 | V RESISTOR,SECAM Y LEVEL | 10KΩ |
| R32 | NRSA63J-392N | RESISTOR | 3.9KΩ,1/16W |
| R36 | NRSA63J-182N | RESISTOR | 1.8KΩ,1/16W |
| R37 | QVZ3518-153 | V RESISTOR,RF AGC | 15KΩ |
| R38 | NRSA63J-182N | RESISTOR | 1.8KΩ,1/16W |
| R39 | NRSA63J-303N | RESISTOR | 30KΩ,1/16W |
| R40 | NRSA63J-275N | RESISTOR | 2.7MΩ,1/16W |
| R41 | NRSA63J-332N | RESISTOR | 3.3KΩ,1/16W |
| R42 | NRSA63J-222N | RESISTOR | 2.2KΩ,1/16W |
| R43 | NRSA63J-684N | RESISTOR | 680KΩ,1/16W |
| R44 | NRSA63J-564N | RESISTOR | 560KΩ,1/16W |
| R45 | NRSA63J-303N | RESISTOR | 30KΩ,1/16W |
| R46 | NRSA63J-562N | RESISTOR | 5.6KΩ,1/16W |
| R47 | NRSA63J-222N | RESISTOR | 2.2KΩ,1/16W |
| R48 | NRSA63J-182N | RESISTOR | 1.8KΩ,1/16W |
| R49 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R50 | NRSA63J-471N | RESISTOR | 470Ω,1/16W |
| R51 | NRSA63J-471N | RESISTOR | 470Ω,1/16W |
| R52 | NRSA63J-331N | RESISTOR | 330Ω,1/16W |
| R53 | NRSA63J-223N | RESISTOR | 22KΩ,1/16W |
| R54 | NRSA63J-153N | RESISTOR | 15KΩ,1/16W |
| R55 | NRSA63J-153N | RESISTOR | 15KΩ,1/16W |
| R57 | NRSA63J-621N | RESISTOR | 620Ω,1/16W |
| R59 | NRSA63J-152N | RESISTOR | 1.5KΩ,1/16W |
| R60 | NRSA63J-242N | RESISTOR | 2.4KΩ,1/16W |
| R65 | NRSA63J-272N | RESISTOR | 2.7KΩ,1/16W |
| R66 | NRSA63J-224N | RESISTOR | 220KΩ,1/16W |
| R69 | NRSA63J-331N | RESISTOR | 330Ω,1/16W |
| R70 | NRSA63J-271N | RESISTOR | 270Ω,1/16W |
| R71 | QVZ3518-682 | V RESISTOR,PAL Y LEVEL | 6.8KΩ |
| R72 | NRSA63J-562N | RESISTOR | 5.6KΩ,1/16W |
| R74 | NRSA63J-181N | RESISTOR | 180Ω,1/16W |
| R75 | NRSA63J-471N | RESISTOR | 470Ω,1/16W |
| R76 | NRSA63J-104N | RESISTOR | 100KΩ,1/16W |
| R78 | NRSA63J-105N | RESISTOR | 1MΩ,1/16W |
| R79 | NRSA63J-123N | RESISTOR | 12KΩ,1/16W |
| R80 | NRSA63J-273N | RESISTOR | 27KΩ,1/16W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R81 | QRD161J-221 | RESISTOR | 220Ω,1/6W |
| R82 | QRD161J-221 | RESISTOR | 220Ω,1/6W |
| R84 | NRSA63J-102N | RESISTOR | 1KΩ,1/16W |
| R85 | NRSA63J-182N | RESISTOR | 1.8KΩ,1/16W |
| R86 | NRSA63J-103N | RESISTOR | 10KΩ,1/16W |
| R87 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R91 | QRD181J-0R0 | RESISTOR | 0Ω,1/8W |
| R92 | QRD161J-0R0 | RESISTOR | 0Ω,1/6W |
| R93 | QRD162J-223 | RESISTOR | 22KΩ,1/6W |
| C1 | NCT06CH-820A | CAPACITOR | 82PF |
| C2 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C3 | NCS31HJ-161A | CAPACITOR | 160PF,50V |
| C4 | NCT06CH-101A | CAPACITOR | 100PF |
| C5 | NCT06CH-470A | CAPACITOR | 47PF |
| C6 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C7 | NCT06CH-100A | CAPACITOR | 10PF |
| C8 | QCTA1PH-150 | CAPACITOR | 15PF,18V |
| C9 | NCT06CH-1R0A | CAPACITOR | 1PF |
| C10 | NCT06CH-3R0A | CAPACITOR | 3PF |
| C11 | NCT06CH-3R0A | CAPACITOR | 3PF |
| C12 | QCBB1HJ-102 | CAPACITOR | 0.001µF,50V |
| C13 | QCSB1HJ-470 | CAPACITOR | 47PF,50V |
| C14 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C15 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C16 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C17 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C18 | NCT06CH-150A | CAPACITOR | 15PF |
| C19 | NCT06CH-6R0A | CAPACITOR | 6PF |
| C20 | QCYA1HK-222 | CAPACITOR | 0.0022µF,50V |
| C21 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C22 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C23 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C24 | QEE81VM-104 | TANTAL CAPACITOR | 0.1µF,35V |
| C25 | QEKG1HM-474 | E CAPACITOR | 0.47µF,50V |
| C26 | NCB31HK-222A | CAPACITOR | 0.0022µF,50V |
| C27 | QEPG1VM-225 | NP E CAPACITOR | 2.2µF,35V |
| C28 | QEKG1AM-107 | E CAPACITOR | 100µF,10V |
| C29 | NCB31HK-102A | CAPACITOR | 0.001µF,50V |
| C30 | QCYA1HK-153 | CAPACITOR | 0.015µF,50V |
| C31 | QEPG1HM-105 | NP E CAPACITOR | 1µF,50V |
| C32 | QEKG1HM-474 | E CAPACITOR | 0.47µF,50V |
| C33 | QEKG1CM-476 | E CAPACITOR | 47µF,16V |
| C34 | NCS31HJ-220A | CAPACITOR | 22PF,50V |
| C37 | NCT06CH-150A | CAPACITOR | 15PF |
| C38 | NCS31HJ-560A | CAPACITOR | 56PF,50V |
| C41 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C43 | NCB31HK-102A | CAPACITOR | 0.001µF,50V |
| C49 | NCB31HK-102A | CAPACITOR | 0.001µF,50V |
| C51 | QEK41EM-475 | E CAPACITOR | 4.7µF,25V |
| C53 | QEKG1CM-226 | E CAPACITOR | 22µF,16V |
| C54 | NCS31HJ-470A | CAPACITOR | 47PF,50V |
| C55 | NCT06CH-220A | CAPACITOR | 22PF |
| C56 | NCT06CH-220A | CAPACITOR | 22PF |
| C60 | QCBB1HJ-102 | CAPACITOR | 0.001µF,50V |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| L1 | PU60656 | COIL | |
| L2 | PU60997 | COIL | 0.6µH |
| L3 | PU60634 | COIL | |
| L4 | PU60025-1R3 | COIL | 1.3µH |
| L5 | PU59152-1R0K | COIL | 1µH |
| L7 | PU59152-8R2J | COIL | 8.2µH |
| L10 | PU59152-470J | COIL | 47µH |
| L11 | PU59152-270J | COIL | 27µH |
| CF1 | PU32990-2 | CERAMIC FILTER | |
| CF2 | PU32990-4 | CERAMIC FILTER | |
| CF3 | PU32989-3 | CERAMIC FILTER | |
| SAW1 | PEVB0351 | SAW FILTER | |
| ⚠ X1 | PU60086 | RESONATOR | |
| T1 | PU60574 | BALUN | |
| T2 | PU60574 | BALUN | |
| T3 | PU60575 | IF.TRANSFORMER,SOUND TRAP | |
| T4 | PU60576 | BAND PASS FILTER | |
| T5 | PU60635-6 | IF.TRANSFORMER,OSC | |
| T6 | PU59982-2 | IF.TRANSFORMER,LLD | |
| HD1 | PU22580-1-1 | HOLDER | |
| JP1 | PU59935-17 | TERMINAL | |
| JP2 | PU59935-6 | TERMINAL | |
| SLD1 | PU60598 | SHIELD CASE | |
| SLD2 | PU60599 | SHIELD PLATE | |
| CN4 | PU58844-2 | CONNECTOR | |

********************************

## TUNER CONTROL BOARD ASSEMBLY <08>

| | | | |
|---|---|---|---|
| PWBA | PB10251F-01 | TUNER/CONTROL BOARD ASSY | |
| ⚠ RF1 | PERF0077 | RF CONVERTER | |
| ⚠ TNR1 | PERF0040-01-01 | UHF/VHF TUNER | |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| IC1 | LA7710 | IC | |
| IC2 | UPC1391H | IC | |
| Q2 | 2SC3932(ST) | TRANSISTOR | |
| Q3 | DTC144EU | TRANSISTOR | |
| Q4 | 2SD1450S,T | TRANSISTOR | |
| Q5 | 2SD1819A(RS) | TRANSISTOR | |
| Q6 | 2SD1819A(RS) | TRANSISTOR | |
| Q7 | 2SD1819A(RS) | TRANSISTOR | |
| Q8 | 2SB1068(KU) | TRANSISTOR | |
| Q9 | DTC144EU | TRANSISTOR | |
| Q10 | 2SD1207(ST) | TRANSISTOR | |
| Q11 | 2SC3068 | TRANSISTOR | |
| Q12 | DTA143EU | TRANSISTOR | |
| Q13 | DTC114EU | TRANSISTOR | |
| Q14 | DTC144EU | TRANSISTOR | |
| Q15 | DTA144EU | TRANSISTOR | |
| Q16 | DTC144EU | TRANSISTOR | |
| Q17 | DTA144EU | TRANSISTOR | |
| Q18 | DTC144EU | TRANSISTOR | |
| D1 | RD5.6ES-T1B2 | ZENER DIODE | |
| D2 | E-452-2 | DIODE | |
| D3 | HZT33-02 | ZENER DIODE | |
| D4 | 1SS133 | DIODE | |
| D5 | DAN202U | DIODE | |
| R1 | NRSA63J-750N | RESISTOR | 75Ω,1/16W |
| R7 | NRSA63J-272N | RESISTOR | 2.7KΩ,1/16W |
| R8 | NRSA63J-391N | RESISTOR | 390Ω,1/16W |
| R9 | NRSA63J-470N | RESISTOR | 47Ω,1/16W |
| R10 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| R11 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R12 | NRSA63J-220N | RESISTOR | 22Ω,1/16W |
| R14 | QVZ3518-223 | V RESISTOR,AUDIO LEVEL | 22KΩ |
| R15 | NRSA63J-103N | RESISTOR | 10KΩ,1/16W |
| R16 | NRSA63J-682N | RESISTOR | 6.8KΩ,1/16W |
| R18 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R19 | QRSA08J-682YN | RESISTOR | 6.8KΩ,1/10W |
| R21 | NRSA63J-152N | RESISTOR | 1.5KΩ,1/16W |
| R22 | NRSA63J-472N | RESISTOR | 4.7KΩ,1/16W |
| R23 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R24 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R25 | NRSA63J-102N | RESISTOR | 1KΩ,1/16W |
| R26 | NRSA63J-332N | RESISTOR | 3.3KΩ,1/16W |
| R27 | NRSA63J-123N | RESISTOR | 12KΩ,1/16W |
| R28 | NRSA63J-562N | RESISTOR | 5.6KΩ,1/16W |
| R30 | QVZ3518-681 | V RESISTOR,PAL AUDIO LEVEL | 680Ω |
| R31 | NRSA63J-681N | RESISTOR | 680Ω,1/16W |
| R32 | NRSA63J-391N | RESISTOR | 390Ω,1/16W |
| R33 | NRSA63J-331N | RESISTOR | 330Ω,1/16W |
| R34 | QRSA08J-682YN | RESISTOR | 6.8KΩ,1/10W |
| R35 | NRSA63J-102N | RESISTOR | 1KΩ,1/16W |
| R36 | NRSA63J-621N | RESISTOR | 620Ω,1/16W |
| R37 | NRSA63J-152N | RESISTOR | 1.5KΩ,1/16W |
| R38 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R39 | NRSA63J-122N | RESISTOR | 1.2KΩ,1/16W |
| R40 | NRSA63J-471N | RESISTOR | 470Ω,1/16W |
| R42 | QRSA08J-153YN | RESISTOR | 15KΩ,1/10W |
| R43 | QRSA08J-224YN | RESISTOR | 220KΩ,1/10W |
| R44 | NRSA63J-103N | RESISTOR | 10KΩ,1/16W |
| R46 | NRSA63J-562N | RESISTOR | 5.6KΩ,1/16W |
| R47 | NRSA63J-103N | RESISTOR | 10KΩ,1/16W |
| R49 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R50 | NRSA63J-271N | RESISTOR | 270Ω,1/16W |
| R51 | NRSA63J-391N | RESISTOR | 390Ω,1/16W |
| R53 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| C3 | NCT06CH-150A | CAPACITOR | 15PF |
| C5 | NCT06CH-8R0A | CAPACITOR | 8PF |
| C6 | NCB31HK-222A | CAPACITOR | 0.0022μF,50V |
| C7 | NCB31HK-222A | CAPACITOR | 0.0022μF,50V |
| C8 | NCB31HK-222A | CAPACITOR | 0.0022μF,50V |
| C9 | QCYA1HK-222 | CAPACITOR | 0.0022μF,50V |
| C10 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| C11 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| C13 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| C14 | QEKF1HM-105 | E CAPACITOR | 1μF,50V |
| C15 | QEKF1AM-476 | E CAPACITOR | 47μF,10V |
| C16 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| C17 | QCYA1HK-222 | CAPACITOR | 0.0022μF,50V |
| C18 | QEKF1CM-336 | E CAPACITOR | 33μF,16V |
| C19 | QCYA1HK-222 | CAPACITOR | 0.0022μF,50V |
| C20 | QETA1CM-107 | E CAPACITOR | 100μF,16V |
| C22 | QCYA1HK-123 | CAPACITOR | 0.012μF,50V |
| C23 | QEPF1CM-106 | E CAPACITOR | 10μF,16V |
| C24 | QEKF1CM-336 | E CAPACITOR | 33μF,16V |
| C25 | NCT06CH-220A | CAPACITOR | 22PF |
| C26 | QFN31HJ-562 | M CAPACITOR | 0.0056μF,50V |
| C27 | QCYA1EK-473 | CAPACITOR | 0.047μF,25V |
| C28 | QCYA1EK-473 | CAPACITOR | 0.047μF,25V |
| C29 | QCYA1EK-473 | CAPACITOR | 0.047μF,25V |
| C30 | QCYA1EK-473 | CAPACITOR | 0.047μF,25V |
| C31 | QEKF1CM-226 | E CAPACITOR | 22μF,16V |
| C32 | QEKF1CM-336 | E CAPACITOR | 33μF,16V |
| C33 | QEK40JM-226 | E CAPACITOR | 22μF,6.3V |
| C34 | QEKF1HM-106 | E CAPACITOR | 10μF,50V |
| C35 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| C36 | QEKF1HM-225 | E CAPACITOR | 2.2μF,50V |
| C39 | NCB31HK-102A | CAPACITOR | 0.001μF,50V |
| C40 | NCB31HK-102A | CAPACITOR | 0.001μF,50V |
| C41 | NCB31HK-471A | CAPACITOR | 470PF,50V |
| C42 | NCB31HK-102A | CAPACITOR | 0.001μF,50V |
| L2 | PU60583 | IF.TRANSFORMER | |
| L3 | PU59152-1R5K | COIL | 1.5μH |
| L4 | PU60584 | IF.TRANSFORMER | |
| L5 | PU59243 | FH TRAP | |
| L6 | PU59152-1R0K | COIL | 1μH |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|---|
| | CF1 | PU32991-2 | CERAMIC FILTER |
| | CF2 | PU58558-2 | CERAMIC FILTER |
| | | or PU60774-2 | CERAMIC FILTER |
| | SAW1 | PU36396 | SAW FILTER |
| | T1 | PU60585 | IF.TRANSFORMER,S LLD |
| | WR1 | PW30401-BB13T | COAXIAL CORD |
| | | or PW30401-BB13S | COAXIAL CORD |
| | CN1 | PU60417-10 | CONNECTOR |
| | CN2 | PU58844-7 | CONNECTOR |
| | CN3 | PU58844-2 | CONNECTOR |
| ⚠ | CP1 | ICP-F10 | CIRCUIT PROTECTOR |

*********************************

## AUDIO UNIT BOARD ASSEMBLY <09>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | PWBA | PB10395L | AUDIO UNIT BOARD ASSY | |
| | IC1 | PB20438B | FMA MODULE BOARD ASSY | |
| | IC2 | JCP0013 | IC | |
| | IC4 | M34225M2-110SP | IC | |
| | IC5 | M5223P | IC | |
| | Q1 | 2SC4097(QR) | TRANSISTOR | |
| | Q4 | 2SC4081(QR) | TRANSISTOR | |
| | Q5 | 2SC4081(QR) | TRANSISTOR | |
| | Q6 | DTA114EU | TRANSISTOR | |
| ⚠ | Q10 | DTA124EU | TRANSISTOR | |
| | Q11 | DTA124EU | TRANSISTOR | |
| | Q13 | DTA143EU | TRANSISTOR | |
| | Q16 | 2SC4081(QR) | TRANSISTOR | |
| | Q19 | DTC114EU | TRANSISTOR | |
| | Q23 | 2SC4081(QR) | TRANSISTOR | |
| | Q26 | 2SC4081(QR) | TRANSISTOR | |
| | Q27 | 2SC4081(QR) | TRANSISTOR | |
| | Q28 | 2SA1577(QR) | TRANSISTOR | |
| | Q29 | 2SC4097(QR) | TRANSISTOR | |
| | D1 | DAN202U | DIODE | |
| | D3 | DAN202U | DIODE | |
| | D4 | DAN202U | DIODE | |
| | D5 | DAN202U | DIODE | |
| | D6 | DA204U | DIODE | |
| | D7 | DA204U | DIODE | |
| | D8 | DAN202U | DIODE | |
| | D10 | DAN202U | DIODE | |
| | D12 | HZ2BLL | ZENER DIODE | |
| | D13 | HZ2BLL | ZENER DIODE | |
| | D14 | 1SS133 | DIODE | |
| | D16 | DAN202U | DIODE | |
| | D17 | DAN202U | DIODE | |
| | D22 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | R1 | QRSA08J-100YN | RESISTOR | 10Ω,1/10W |
| | R2 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| | R3 | QRSA08J-820YN | RESISTOR | 82Ω,1/10W |
| | R12 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| | R22 | QRSA08J-362YN | RESISTOR | 3.6KΩ,1/10W |
| | R23 | QRSA08J-273YN | RESISTOR | 27KΩ,1/10W |
| | R24 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| | R25 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| | R27 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| | R29 | QRSA08J-473YN | RESISTOR | 47KΩ,1/10W |
| | R30 | QRSA08J-473YN | RESISTOR | 47KΩ,1/10W |
| | R31 | QRSA08J-4R7YN | RESISTOR | 4.7Ω,1/10W |
| | R33 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| | R34 | QRSA08J-682YN | RESISTOR | 6.8KΩ,1/10W |
| | R35 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| | R36 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| | R37 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| | R40 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| | R41 | QRSA08J-123YN | RESISTOR | 12KΩ,1/10W |
| | R42 | QRSA08J-123YN | RESISTOR | 12KΩ,1/10W |
| | R45 | QRSA08J-473YN | RESISTOR | 47KΩ,1/10W |
| | R46 | QRSA08J-393YN | RESISTOR | 39KΩ,1/10W |
| | R51 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| | R52 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| | R53 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| | R54 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| | R55 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| | R56 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| | R57 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| | R58 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| | R62 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| | R63 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| | R64 | QRSA08J-823YN | RESISTOR | 82KΩ,1/10W |
| | R65 | QRSA08J-680YN | RESISTOR | 68Ω,1/10W |
| | R66 | QRSA08J-682YN | RESISTOR | 6.8KΩ,1/10W |
| | R67 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| | R68 | QRSA08J-682YN | RESISTOR | 6.8KΩ,1/10W |
| | R69 | QRSA08J-680YN | RESISTOR | 68Ω,1/10W |
| | R70 | QRSA08J-823YN | RESISTOR | 82KΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R71 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R72 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| R73 | QRSA08J-132YN | RESISTOR | 1.3KΩ,1/10W |
| R74 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R75 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R76 | QRSA08J-472YN | RESISTOR | 4.7KΩ,1/10W |
| R77 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R78 | QRSA08J-273YN | RESISTOR | 27KΩ,1/10W |
| R79 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R80 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R81 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R82 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R83 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R84 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R85 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R86 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R87 | QRSA08J-473YN | RESISTOR | 47KΩ,1/10W |
| R88 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R91 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R92 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R93 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R94 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R95 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R103 | QRSA08J-562YN | RESISTOR | 5.6KΩ,1/10W |
| R106 | QRSA08J-562YN | RESISTOR | 5.6KΩ,1/10W |
| R108 | QRSA08J-473YN | RESISTOR | 47KΩ,1/10W |
| R110 | QRSA08J-472YN | RESISTOR | 4.7KΩ,1/10W |
| R111 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| R114 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R115 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R116 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| C1 | QCYA1HK-222 | CAPACITOR | 0.0022μF,50V |
| C2 | QCYA1HK-332 | CAPACITOR | 0.0033μF,50V |
| C3 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C4 | QCSA1HJ-331 | CAPACITOR | 330PF,50V |
| C5 | QFV81HJ-333 | TF CAPACITOR | 0.033μF,50V |
| C6 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C9 | QETC1HM-225 | E CAPACITOR | 2.2μF,50V |
| C10 | QETB1AM-336 | E CAPACITOR | 33μF,10V |
| C11 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C21 | QE231CM-106ZR | E CAPACITOR | 10μF,16V |
| C25 | QE231CM-106ZR | E CAPACITOR | 10μF,16V |
| C26 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C27 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C28 | QENC1CM-106 | NP E CAPACITOR | 10μF,16V |
| C31 | QETC1HM-225 | E CAPACITOR | 2.2μF,50V |
| C32 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C34 | QFV71HJ-223 | TF CAPACITOR | 0.022μF,50V |
| C35 | QCYA1HK-682 | CAPACITOR | 0.0068μF,50V |
| C36 | QCYA1HK-153 | CAPACITOR | 0.015μF,50V |
| C37 | QCYA1HK-682 | CAPACITOR | 0.0068μF,50V |
| C38 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C39 | QETC1AM-476 | E CAPACITOR | 47μF,10V |
| C40 | QE521CM-106R | NP E CAPACITOR | 10μF,16V |
| C41 | QENC1CM-106 | NP E CAPACITOR | 10μF,16V |
| C42 | QETC1CM-226 | E CAPACITOR | 22μF,16V |
| C43 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C44 | QETC1AM-336 | E CAPACITOR | 33μF,10V |
| C45 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C46 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| C47 | QETC1AM-336 | E CAPACITOR | 33μF,10V |
| C48 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C49 | QETB1CM-226 | E CAPACITOR | 22μF,16V |
| C51 | QE531CM-106ZR | NP E CAPACITOR | 10μF,16V |
| C52 | QETC1AM-476 | E CAPACITOR | 47μF,10V |
| C53 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C54 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C55 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C56 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C57 | QE231CM-476ZR | E CAPACITOR | 47μF,16V |
| C58 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C60 | QCYA1HK-102 | CAPACITOR | 0.001μF,50V |
| C62 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C63 | QETC1CM-336 | E CAPACITOR | 33μF,16V |
| C64 | QETC1CM-336 | E CAPACITOR | 33μF,16V |
| C65 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C66 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C67 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C70 | QCYA1HK-102 | CAPACITOR | 0.001μF,50V |
| C71 | QCFA1EZ-104 | CAPACITOR | 0.1μF,25V |
| C72 | QCFA1EZ-104 | CAPACITOR | 0.1μF,25V |
| C75 | QCYA1HK-153 | CAPACITOR | 0.015μF,50V |
| C76 | QCYA1EK-223 | CAPACITOR | 0.022μF,25V |
| C79 | QCC11CJ-104 | CAPACITOR | 0.1μF,16V |
| | or QCC11EJ-104 | CAPACITOR | 0.1μF,25V |
| C81 | QCYA1HK-221 | CAPACITOR | 220PF,50V |
| C82 | QCYA1HK-221 | CAPACITOR | 220PF,50V |
| C83 | QCSA1HJ-681 | CAPACITOR | 680PF,50V |
| L1 | PU58308-472J | COIL | 4.7mH |
| L2 | PU48530-101J | COIL | 100μH |
| L3 | PU48530-101J | COIL | 100μH |
| L5 | PU48530-101J | COIL | 100μH |
| BPF1 | PU60610 | BPF(1.4MHZ) | |
| BPF2 | PU60611 | BPF(1.8MHZ) | |
| ⚠ CF1 | PEVB0352 | RESONATOR | |
| ⚠ T1 | PELN0351 | OSC TRANSFORMER | |
| ⚠ | or PELN0562 | OSC TRANSFORMER | |
| ⚠ T2 | PELN0340 | OSC TRANSFORMER | |
| ⚠ | or PELN0532 | OSC TRANSFORMER | |
| SPC1 | PQM30029-149 | SPACER | |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|---|
| | CN1 | PU58844-8 | CONNECTOR |
| | CN2 | PU58844-2 | CONNECTOR |
| | CN3 | PU60417-7 | CONNECTOR |
| | CN4 | PU58844-5 | CONNECTOR |
| | CN5 | PU58844-4 | CONNECTOR |
| | CN6 | PU58844-3 | CONNECTOR |
| | CN7 | PU60417-3 | CONNECTOR |
| | CN8 | PEMC0757-115 | HOUSING |
| | CN9 | PEMC0757-111 | HOUSING |
| | CN10 | PEMC0757-115 | HOUSING |
| | CN11 | PEMC0748-110 | CONNECTOR |
| | CN12 | PEMC0748-110 | CONNECTOR |
| | CN13 | PEMC0748-110 | CONNECTOR |
| ⚠ | CP1 | ICP-F10 | CIRCUIT PROTECTOR |
| ⚠ | CP2 | ICP-F10 | CIRCUIT PROTECTOR |
| ⚠ | CP3 | ICP-F10 | CIRCUIT PROTECTOR |

**********************************

## VIDEO INTERFACE BOARD ASSEMBLY<10><88>

| REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| PWBA | PB10579A1-01 | VIDEO INTERFACE BOARD ASSY |
| HD1 | PU60521 | PWB HOLDER(A),X2 |
| HD2 | PU60522 | PWB HOLDER(B),X2 |
| SPC1 | PU60010-2 | SPACER,X2 |

### – I&O SW SECTION –

| REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| TP | PU57545 | TEST PIN,X9 |
| IC1 | JCP0021 | IC |
| IC2 | BA7649 | IC |
| | or BA7649A | IC |
| IC3 | BA7644N | IC |
| | or BA7644AN | IC |
| IC4 | LVA523SA | IC |
| IC5 | TC7S02F | IC |
| IC7 | LVA523SA | IC |
| IC8 | LVA522SA | IC |
| IC10 | TC4S81F | IC |
| IC11 | TC4S71F | IC |
| IC12 | MC74HC04AN | IC |
| | or TC74HC04AP | IC |
| | or CD74HC04E | IC |
| IC13 | TC4S71F | IC |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| Q1 | 2SA1576(QRS) | TRANSISTOR |
| Q2 | DTC144EU | TRANSISTOR |
| Q3 | DTC144WU | TRANSISTOR |
| Q4 | DTC144WU | TRANSISTOR |
| Q5 | DTA114EU | TRANSISTOR |
| Q6 | DTC143EU | TRANSISTOR |
| Q7 | 2SA1576(QRS) | TRANSISTOR |
| Q8 | 2SA1576(QRS) | TRANSISTOR |
| Q9 | 2SA1577(QR) | TRANSISTOR |
| Q10 | 2SA1577(QR) | TRANSISTOR |
| Q11 | 2SA1577(QR) | TRANSISTOR |
| Q12 | 2SA1576(QRS) | TRANSISTOR |
| Q13 | 2SA1576(QRS) | TRANSISTOR |
| Q14 | 2SA1576(QRS) | TRANSISTOR |
| Q15 | 2SA1576(QRS) | TRANSISTOR |
| Q16 | 2SA1577(QR) | TRANSISTOR |
| Q17 | 2SA1577(QR) | TRANSISTOR |
| Q19 | 2SD1468S(RS) | TRANSISTOR |
| Q20 | 2SA1576(QRS) | TRANSISTOR |
| Q21 | 2SA1576(QRS) | TRANSISTOR |
| Q22 | 2SA1576(QRS) | TRANSISTOR |
| Q23 | 2SC4081(QRS) | TRANSISTOR |
| Q24 | DTC144WU | TRANSISTOR |
| Q25 | DTC144WU | TRANSISTOR |
| Q26 | DTC144EU | TRANSISTOR |
| Q27 | 2SA1576(QRS) | TRANSISTOR |
| Q29 | DTC144WU | TRANSISTOR |
| Q30 | DTC144WU | TRANSISTOR |
| Q31 | 2SA1576(QRS) | TRANSISTOR |
| Q32 | 2SC4081(QRS) | TRANSISTOR |
| Q33 | 2SC4081(QRS) | TRANSISTOR |
| Q34 | 2SA1576(QRS) | TRANSISTOR |
| Q35 | 2SC4081(QRS) | TRANSISTOR |
| Q38 | 2SC4081(QRS) | TRANSISTOR |
| Q39 | 2SC4081(QRS) | TRANSISTOR |
| Q46 | DTC144EU | TRANSISTOR |
| Q47 | DTA114EU | TRANSISTOR |
| Q48 | DTC144EU | TRANSISTOR |
| Q49 | DTC144WU | TRANSISTOR |
| Q51 | 2SC4081(QRS) | TRANSISTOR |
| Q52 | 2SA1576(QRS) | TRANSISTOR |
| Q53 | DTC144EU | TRANSISTOR |
| Q55 | 2SC4081(QRS) | TRANSISTOR |
| Q59 | DTA114EU | TRANSISTOR |
| Q60 | DTC144EU | TRANSISTOR |
| Q61 | 2SK381(C) | FE TRANSISTOR |
| Q62 | 2SK381(C) | FE TRANSISTOR |
| D1 | DAN202U | DIODE |
| D2 | DAP202U | DIODE |
| D3 | DAP202U | DIODE |
| D4 | DAN202U | DIODE |
| D5 | DAP202U | DIODE |
| D6 | DAN202U | DIODE |
| D7 | DAN202U | DIODE |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| D8 | DAN202U | DIODE | |
| D9 | DAN202U | DIODE | |
| D10 | DAP202U | DIODE | |
| D11 | DAP202U | DIODE | |
| D12 | DAP202U | DIODE | |
| D13 | DAN202U | DIODE | |
| D14 | DAP202U | DIODE | |
| D15 | DAN202U | DIODE | |
| D16 | DAN202U | DIODE | |
| D17 | DAN202U | DIODE | |
| D18 | DAN202U | DIODE | |
| D19 | DA204U | DIODE | |
| D20 | DAN202U | DIODE | |
| D21 | DAN202U | DIODE | |
| D22 | DAN202U | DIODE | |
| D24 | MTZ8.2B | ZENER DIODE | |
| D25 | DA204U | DIODE | |
| D26 | DAN202U | DIODE | |
| D27 | DA204U | DIODE | |
| D28 | DAN202U | DIODE | |
| D29 | DAN202U | DIODE | |
| D30 | DAN202U | DIODE | |
| D33 | DAP202U | DIODE | |
| D34 | DAP202U | DIODE | |
| D35 | DAN202U | DIODE | |
| D36 | DAN202U | DIODE | |
| D37 | DAN202U | DIODE | |
| D38 | DAN202U | DIODE | |
| D39 | DAN202U | DIODE | |
| D40 | DAN202U | DIODE | |
| D41 | DAN202U | DIODE | |
| D43 | DAN202U | DIODE | |
| D44 | DAN202U | DIODE | |
| D45 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D46 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D47 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| R2 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R3 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R4 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R5 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R6 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R7 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R8 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R9 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R10 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R11 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R12 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R13 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R14 | QRSA08J-105YN | RESISTOR | 1MΩ,1/10W |
| R15 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R16 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R17 | QRD123J-391SX | RESISTOR | 390Ω,1/2W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R18 | QRD123J-391SX | RESISTOR | 390Ω,1/2W |
| R19 | QRD123J-391SX | RESISTOR | 390Ω,1/2W |
| R20 | QRSA08J-472YN | RESISTOR | 4.7KΩ,1/10W |
| R21 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R22 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R23 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R24 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R25 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R26 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R27 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R28 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R29 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R30 | QRSA08J-105YN | RESISTOR | 1MΩ,1/10W |
| R31 | QRSA08J-123YN | RESISTOR | 12KΩ,1/10W |
| R32 | QRSA08J-472YN | RESISTOR | 4.7KΩ,1/10W |
| R33 | QRSA08J-472YN | RESISTOR | 4.7KΩ,1/10W |
| R34 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R35 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R36 | QVZ3523-103AZ | V RESISTOR,EE Y LEVEL | 10KΩ |
| | or QVZ3518-103 | V RESISTOR | 10KΩ |
| | or QVZ3518-103AZ | V RESISTOR | 10KΩ |
| | or QVZ3523-103 | V RESISTOR | 10KΩ |
| R37 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R38 | QRSA08J-393YN | RESISTOR | 39KΩ,1/10W |
| R39 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R40 | QRSA08J-273YN | RESISTOR | 27KΩ,1/10W |
| R41 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R42 | QRSA08J-242YN | RESISTOR | 2.4KΩ,1/10W |
| R43 | QRSA08J-680YN | RESISTOR | 68Ω,1/10W |
| R44 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R45 | QRSA08J-910YN | RESISTOR | 91Ω,1/10W |
| ⚠ R46 | QRSA08J-271YN | RESISTOR | 270Ω,1/10W |
| R47 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R48 | QRD161J-101 | RESISTOR | 100Ω,1/6W |
| R49 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R50 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R51 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R52 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R53 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R54 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| R55 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R56 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| R57 | QRSA08J-473YN | RESISTOR | 47KΩ,1/10W |
| R58 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R59 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R60 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R61 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R62 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R63 | QVZ3523-333AZ | V RESISTOR,N PB Y LEVEL | 33KΩ |
| | or QVZ3518-333 | V RESISTOR | 33KΩ |
| | or QVZ3518-333AZ | V RESISTOR | 33KΩ |
| | or QVZ3523-333 | V RESISTOR | 33KΩ |
| R64 | QVZ3523-332AZ | V RESISTOR,S PB Y LEVEL | 3.3KΩ |
| | or QVZ3518-332 | V RESISTOR | 3.3KΩ |
| | or QVZ3518-332AZ | V RESISTOR | 3.3KΩ |
| | or QVZ3523-332 | V RESISTOR | 3.3KΩ |
| R65 | QRSA08J-682YN | RESISTOR | 6.8KΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R66 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R67 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R68 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R69 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R70 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R71 | QRSA08J-183YN | RESISTOR | 18KΩ,1/10W |
| R72 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R73 | QRSA08J-183YN | RESISTOR | 18KΩ,1/10W |
| R74 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R75 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R76 | QRSA08J-104YN | RESISTOR | 100KΩ,1/10W |
| R77 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R78 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R79 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R80 | QRSA08J-132YN | RESISTOR | 1.3KΩ,1/10W |
| R81 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R82 | QRSA08J-105YN | RESISTOR | 1MΩ,1/10W |
| R83 | QRSA08J-183YN | RESISTOR | 18KΩ,1/10W |
| R84 | QRSA08J-392YN | RESISTOR | 3.9KΩ,1/10W |
| R85 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R86 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R87 | QRSA08J-431YN | RESISTOR | 430Ω,1/10W |
| R88 | QRSA08J-621YN | RESISTOR | 620Ω,1/10W |
| R89 | QRSA08J-271YN | RESISTOR | 270Ω,1/10W |
| R90 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R91 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| R92 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R93 | QRD161J-363 | RESISTOR | 36KΩ,1/6W |
| R95 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R96 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R97 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| R98 | QRSA08J-162YN | RESISTOR | 1.6KΩ,1/10W |
| R99 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R103 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R104 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R105 | QRSA08J-472YN | RESISTOR | 4.7KΩ,1/10W |
| R107 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R108 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R109 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R110 | QRSA08J-104YN | RESISTOR | 100KΩ,1/10W |
| R111 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R112 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R113 | QRSA08J-104YN | RESISTOR | 100KΩ,1/10W |
| R114 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R115 | QRD161J-750 | RESISTOR | 75Ω,1/6W |
| R116 | QRSA08J-822YN | RESISTOR | 8.2KΩ,1/10W |
| R117 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R119 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R120 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R121 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R122 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R123 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R124 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R125 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R127 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R128 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R129 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R130 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R131 | QRSA08J-183YN | RESISTOR | 18KΩ,1/10W |
| R132 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R133 | QRSA08J-303YN | RESISTOR | 30KΩ,1/10W |
| R134 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R142 | QRD161J-101 | RESISTOR | 100Ω,1/6W |
| R143 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| C1 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C2 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C3 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C4 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C6 | QEK61HM-105 | E CAPACITOR | 1μF,50V |
| C7 | QEK61HM-105 | E CAPACITOR | 1μF,50V |
| C9 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C10 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C11 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C12 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C13 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C14 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C15 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C16 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C17 | QEN61AM-476 | NP E CAPACITOR | 47μF,10V |
| C18 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C19 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C21 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C22 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C23 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C24 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C25 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C26 | QETC1AM-226 | E CAPACITOR | 22μF,10V |
| C27 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C28 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C29 | QETC0JM-477 | E CAPACITOR | 470μF,6.3V |
| C30 | QETC0JM-477 | E CAPACITOR | 470μF,6.3V |
| C32 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C33 | QETC1EM-106 | E CAPACITOR | 10μF,25V |
| C34 | QETC1EM-106 | E CAPACITOR | 10μF,25V |
| C35 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C36 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C37 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C38 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C39 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C40 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C41 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C42 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C43 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C44 | QETC1EM-106 | E CAPACITOR | 10μF,25V |
| C46 | QCSA1HJ-470 | CAPACITOR | 47PF,50V |
| C47 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C48 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C49 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C50 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C51 | QEN61EM-335 | NP E CAPACITOR | 3.3μF,25V |
| C52 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C53 | QETC1HM-224 | E CAPACITOR | 0.22μF,50V |
| C54 | QCYA1HK-682 | CAPACITOR | 0.0068μF,50V |
| C55 | QETC0JM-107 | E CAPACITOR | 100μF,6.3V |
| C56 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C57 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C58 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C59 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C60 | QCYA1HK-682 | CAPACITOR | 0.0068μF,50V |
| C61 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C62 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C63 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C64 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C65 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C66 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| C67 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C68 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C69 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C70 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C71 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C72 | QETC1HM-225 | E CAPACITOR | 2.2μF,50V |
| C73 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C74 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C76 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C77 | QETC1CM-107 | E CAPACITOR | 100μF,16V |
| C78 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C79 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C80 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C81 | QETC1EM-335 | E CAPACITOR | 3.3μF,25V |
| C82 | QCSA1HJ-330 | CAPACITOR | 33PF,50V |
| C85 | QETC0JM-336 | E CAPACITOR | 33μF,6.3V |
| C87 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C88 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C89 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C90 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C91 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C94 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C95 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C98 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C99 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C103 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| C105 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| L1 | PU48530-101K | COIL | 100μH |
| L2 | PU48530-101K | COIL | 100μH |
| L3 | PU48530-101K | COIL | 100μH |
| L4 | PU48530-101K | COIL | 100μH |
| L5 | PU48530-101K | COIL | 100μH |
| L6 | PU59988-100J | COIL | 10μH |
| L7 | PU48530-101K | COIL | 100μH |
| L8 | PU59988-100J | COIL | 10μH |
| L9 | PU48530-101K | COIL | 100μH |
| L10 | PU48530-101K | COIL | 100μH |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| L11 | PU59153-101K | COIL | 100μH |
| L12 | PU48530-101K | COIL | 100μH |
| L13 | PU48530-101K | COIL | 100μH |
| L15 | PU48530-101K | COIL | 100μH |
| LC1 | PU60813 | LCF | |
| CN1 | PU60417-5 | CONNECTOR | |
| CN3 | PU58844-6 | CONNECTOR | |
| CN4 | PU60417-5 | CONNECTOR | |
| CN5 | PEMC0749-110 | CONNECTOR | |
| CN6 | PEMC0749-110 | CONNECTOR | |
| CN7 | PEMC0749-110 | CONNECTOR | |
| CN8 | PU58844-7 | CONNECTOR | |
| CN9 | PU58844-4 | CONNECTOR | |
| CN10 | PU58844-5 | CONNECTOR | |
| CN11 | PU58844-4R | CONNECTOR | |
| CN12 | PU58844-2Y | CONNECTOR | |
| CN13 | PU58844-6 | CONNECTOR | |
| CN14 | PU58844-6 | CONNECTOR | |
| CN15 | PEMC0829-8 | CONNECTOR | |
| CN16 | PEMC0829-8 | CONNECTOR | |
| CN19 | PU58844-3 | CONNECTOR | |
| CN20 | PU59555-3 | CONNECTOR | |
| CN21 | PU58844-2 | CONNECTOR | |

### – Y/C SEPARATOR SECTION –

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| TP | PU57545 | TEST PIN,X6 | |
| IC201 | VC2063S | IC | |
| Q201 | 2SA1576(QRS) | TRANSISTOR | |
| Q202 | 2SC4081(QRS) | TRANSISTOR | |
| Q203 | 2SA1576(QRS) | TRANSISTOR | |
| Q204 | 2SC4081(QRS) | TRANSISTOR | |
| Q205 | 2SC4081(QRS) | TRANSISTOR | |
| Q206 | 2SC4081(QRS) | TRANSISTOR | |
| Q207 | 2SC4081(QRS) | TRANSISTOR | |
| Q208 | 2SA1576(QRS) | TRANSISTOR | |
| Q209 | 2SC4081(QRS) | TRANSISTOR | |
| R201 | QRD161J-101 | RESISTOR | 100Ω,1/6W |
| R202 | QRSA08J-472YN | RESISTOR | 4.7KΩ,1/10W |
| R203 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R204 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R205 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R206 | QVZ3523-151A | V RESISTOR,Y GAIN | 150Ω |
| | or QVZ3518-151 | V RESISTOR | 150Ω |
| | or QVZ3518-151A | V RESISTOR | 150Ω |
| | or QVZ3523-151 | V RESISTOR | 150Ω |
| R207 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R208 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R209 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R210 | QRSA08J-242YN | RESISTOR | 2.4KΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R211 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R212 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R213 | ERT-D2FGL102S | THERMISTOR | |
| R214 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R215 | QVZ3523-223A | V RESISTOR,Y COMB-1 | 22KΩ |
| | or QVZ3518-223 | V RESISTOR | 22KΩ |
| | or QVZ3518-223A | V RESISTOR | 22KΩ |
| | or QVZ3523-223 | V RESISTOR | 22KΩ |
| R216 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R217 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R218 | ERT-D2FHL332S | THERMISTOR | |
| R219 | QVZ3523-472A | V RESISTOR,Y COMB-2 | 4.7KΩ |
| | or QVZ3518-472 | V RESISTOR | 4.7KΩ |
| | or QVZ3518-472A | V RESISTOR | 4.7KΩ |
| | or QVZ3523-472 | V RESISTOR | 4.7KΩ |
| R220 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R221 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R222 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R223 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R224 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R225 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R226 | QRSA08J-181YN | RESISTOR | 180Ω,1/10W |
| R227 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| R228 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R229 | QRD161J-821 | RESISTOR | 820Ω,1/6W |
| R230 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R231 | QVZ3523-471A | V RESISTOR,Y COMB-3 | 470Ω |
| | or QVZ3518-471 | V RESISTOR | 470Ω |
| | or QVZ3518-471A | V RESISTOR | 470Ω |
| | or QVZ3523-471 | V RESISTOR | 470Ω |
| R232 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R233 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R234 | QVZ3523-473A | V RESISTOR,2H DL COLOR LEVEL | 47KΩ |
| | or QVZ3518-473 | V RESISTOR | 47KΩ |
| | or QVZ3518-473A | V RESISTOR | 47KΩ |
| | or QVZ3523-473 | V RESISTOR | 47KΩ |
| R235 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R236 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R237 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R239 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R243 | QRD161J-392 | RESISTOR | 3.9KΩ,1/6W |
| R244 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R245 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R246 | QRSA08J-393YN | RESISTOR | 39KΩ,1/10W |
| C201 | QCSA1HJ-470 | CAPACITOR | 47PF,50V |
| C202 | QETC0JM-227 | E CAPACITOR | 220μF,6.3V |
| C203 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C204 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C205 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C206 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C207 | QCSA1HJ-101 | CAPACITOR | 100PF,50V |
| C208 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C209 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C210 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C211 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C212 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C213 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C214 | QETC0JM-227 | E CAPACITOR | 220μF,6.3V |
| C215 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C216 | QCTA1CH-470 | CAPACITOR | 47PF,16V |
| C217 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C218 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C219 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| C223 | QCSA1HJ-101 | CAPACITOR | 100PF,50V |
| C224 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C225 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C226 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C227 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C228 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C229 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| L201 | PU48530-101K | COIL | 100μH |
| L202 | PU48530-101K | COIL | 100μH |
| L203 | PELN0522 | COIL, 2H DL COLOR LEVEL | |
| L204 | PU60165-8R2G | COIL | 8.2μH |
| EQ201 | PU60809 | EQUALIZER | |
| EQ202 | PU60810 | EQUALIZER | |
| BPF201 | PU60921 | BAND PASS FILTER | |
| BPF202 | PU60808-2 | BAND PASS FILTER | |
| DL201 | PELN0565 | DELAY LINE | |

## – TERMINAL SECTION –

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R601 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R602 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| C601 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| C602 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| L603 | PU59988-100JW | COIL | 10μH |
| L604 | PU59988-100JW | COIL | 10μH |
| LC601 | PU61192-222 | NOISE FILTER | |
| LC602 | PU61192-222 | NOISE FILTER | |
| S601 | PESW0558 | SLIDE SWITCH | |
| K602 | PU60281-5 | FERRITE BEADS | |
| SCW1 | SDSF3010Z | SCREW,X2 | |
| SKT1 | PEMC0766 | RGB21PIN SOCKET | |
| ⚠ TB1 | PQ11010-7-3 | TERMINAL BOARD(1) | |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| JA1,2 | PU61048 | S.CONNECTION,X2 | |
| CN602 | PU58844-6 | CONNECTOR | |
| CN603 | PU58844-7 | CONNECTOR | |
| CN604 | PU58844-2 | CONNECTOR | |

## - SECAM SWITCH SECTION -

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| TP | PU57545 | TEST PIN,X4 | |
| IC801 | LVA523SA | IC | |
| IC802 | NJM2248L | IC | |
| IC803 | LVA523SA | IC | |
| IC804 | LVA522SA | IC | |
| Q801 | 2SC4081(QRS) | TRANSISTOR | |
| Q802 | DTC124EU | TRANSISTOR | |
| Q803 | DTA144EU | TRANSISTOR | |
| Q804 | 2SA1576(QRS) | TRANSISTOR | |
| Q805 | 2SC4081(QRS) | TRANSISTOR | |
| Q806 | 2SA1576(QRS) | TRANSISTOR | |
| Q807 | 2SC4081(QRS) | TRANSISTOR | |
| Q808 | 2SA1576(QRS) | TRANSISTOR | |
| Q809 | 2SA1576(QRS) | TRANSISTOR | |
| Q810 | 2SA1576(QRS) | TRANSISTOR | |
| Q811 | DTC144EU | TRANSISTOR | |
| D801 | DAP202U | DIODE | |
| D802 | DAP202U | DIODE | |
| D803 | DAN202U | DIODE | |
| R801 | QRSA08J-682YN | RESISTOR | 6.8KΩ,1/10W |
| R802 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R803 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R804 | QRSA08J-823YN | RESISTOR | 82KΩ,1/10W |
| R805 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R806 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |
| R807 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R808 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R809 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R810 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R811 | QRSA08J-621YN | RESISTOR | 620Ω,1/10W |
| R812 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R813 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R814 | QRD161J-101 | RESISTOR | 100Ω,1/6W |
| R815 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R816 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R817 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |
| R818 | QRD161J-101 | RESISTOR | 100Ω,1/6W |
| R819 | QRSA08J-392YN | RESISTOR | 3.9KΩ,1/10W |
| R820 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| R821 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R822 | QRD161J-101 | RESISTOR | 100Ω,1/6W |
| R823 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R825 | QRD161J-225 | RESISTOR | 2.2MΩ,1/6W |
| C801 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C802 | QETC1CM-476 | E CAPACITOR | 47µF,16V |
| C803 | QETC1HM-105 | E CAPACITOR | 1µF,50V |
| C804 | QETC1EM-106 | E CAPACITOR | 10µF,25V |
| C805 | QETC1EM-106 | E CAPACITOR | 10µF,25V |
| C806 | QETC1EM-106 | E CAPACITOR | 10µF,25V |
| C807 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C808 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C809 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C810 | QETC0JM-227 | E CAPACITOR | 220µF,6.3V |
| C811 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C812 | QETC1CM-476 | E CAPACITOR | 47µF,16V |
| C813 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C814 | QCSA1HJ-220 | CAPACITOR | 22PF,50V |
| C815 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C816 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C817 | QETC1EM-106 | E CAPACITOR | 10µF,25V |
| C818 | QETC1EM-106 | E CAPACITOR | 10µF,25V |
| C819 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C820 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C821 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C822 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C824 | QCSA1HJ-470 | CAPACITOR | 47PF,50V |
| C825 | QCSA1HJ-102 | CAPACITOR | 0.001µF,50V |
| C826 | QETC1CM-107 | E CAPACITOR | 100µF,16V |
| C827 | QCSA1HJ-470 | CAPACITOR | 47PF,50V |
| C828 | QCSA1HJ-470 | CAPACITOR | 47PF,50V |
| L801 | PU48530-101K | COIL | 100µH |
| L802 | PU48530-101K | COIL | 100µH |
| L803 | PU48530-101K | COIL | 100µH |
| EQ801 | PU60809 | EQUALIZER | |

## - ON-SCREEN SECTION -

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| TP | PU57545 | TEST PIN,X2 | |
| IC901 | M50554-263SP | IC | |
| IC902 | M52684AP | IC | |
| Q901 | DTA114EU | TRANSISTOR | |
| Q902 | DTA114EU | TRANSISTOR | |
| D901 | DA204U | DIODE | |
| R901 | QRSA08J-472YN | RESISTOR | 4.7KΩ,1/10W |
| R902 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R903 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R904 | QRS188J-103YN | RESISTOR | 10KΩ,1/8W |
| R905 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R906 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R907 | QRSA08J-472YN | RESISTOR | 4.7KΩ,1/10W |
| R908 | QRSA08J-392YN | RESISTOR | 3.9KΩ,1/10W |
| R909 | QRSA08J-752YN | RESISTOR | 7.5KΩ,1/10W |
| R910 | QRSA08J-242YN | RESISTOR | 2.4KΩ,1/10W |
| R911 | QRSA08J-622YN | RESISTOR | 6.2KΩ,1/10W |
| R912 | QRD161J-123 | RESISTOR | 12KΩ,1/6W |
| R913 | QRSA08J-123YN | RESISTOR | 12KΩ,1/10W |
| R914 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R915 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R916 | QRSA08J-105YN | RESISTOR | 1MΩ,1/10W |
| R917 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R918 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R920 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| R921 | QRSA08J-271YN | RESISTOR | 270Ω,1/10W |
| R922 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R923 | QRSA08J-473YN | RESISTOR | 47KΩ,1/10W |
| R924 | QRD161J-154 | RESISTOR | 150KΩ,1/6W |
| C903 | QETC0JM-227 | E CAPACITOR | 220μF,6.3V |
| C904 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C905 | QAT3123-450 | TRIMMER CAPACITOR,DOT CLOCK | 45PF |
| C906 | QCSA1HJ-220 | CAPACITOR | 22PF,50V |
| C907 | QCSA1HJ-330 | CAPACITOR | 33PF,50V |
| C908 | QCSB1HJ-360 | CAPACITOR | 36PF,50V |
| C909 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C910 | QCSA1HJ-270 | CAPACITOR | 27PF,50V |
| C911 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C912 | QCSA1HJ-270 | CAPACITOR | 27PF,50V |
| C915 | QCTA1CH-150 | CAPACITOR | 15PF,16V |
| C916 | QAT3123-200 | TRIMMER CAPACITOR,BURST CLOCK | 20PF |
| C917 | QCTA1CH-5R0 | CAPACITOR | 5PF,16V |
| C918 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C919 | QETC0JM-227 | E CAPACITOR | 220μF,6.3V |
| C921 | QCSA1HJ-331 | CAPACITOR | 330PF,50V |
| C922 | QCYA1HK-222 | CAPACITOR | 0.0022μF,50V |
| C923 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C924 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C925 | QCSA1HJ-220 | CAPACITOR | 22PF,50V |
| C928 | QCYA1HK-152 | CAPACITOR | 0.0015μF,50V |
| C932 | QETC1HM-335 | E CAPACITOR | 3.3μF,50V |
| L901 | PU48530-101K | COIL | 100μH |
| L902 | PU59988-220JY | COIL | 22μH |
| L903 | PU59988-8R2JY | COIL | 8.2μH |
| L904 | PU59988-150J | COIL | 15μH |
| L905 | PU59988-220JY | COIL | 22μH |
| L906 | PU59988-220JY | COIL | 22μH |
| L907 | PU48530-101K | COIL | 100μH |
| ⚠ CF901 | PU60086 | RESONATOR | |
| ⚠ X901 | PU60908 | CRYSTAL RESONATOR | |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| CN901 | PU60417-6 | CONNECTOR | |

## - OTHER SECTION -

| | | | |
|---|---|---|---|
| TP | PU57545 | TEST PIN,X3 | |
| R301 | QVZ3523-332AZ | V RESISTOR,EE BALANCE | 3.3KΩ |
| | or QVZ3518-332 | V RESISTOR | 3.3KΩ |
| | or QVZ3518-332AZ | V RESISTOR | 3.3KΩ |
| | or QVZ3523-332 | V RESISTOR | 3.3KΩ |
| R302 | QVZ3523-473A | V RESISTOR,EE LEVEL | 47KΩ |
| | or QVZ3518-473 | V RESISTOR | 47KΩ |
| | or QVZ3518-473A | V RESISTOR | 47KΩ |
| | or QVZ3523-473 | V RESISTOR | 47KΩ |
| R303 | QVZ3523-471A | V RESISTOR,PB LEVEL | 470Ω |
| | or QVZ3518-471 | V RESISTOR | 470Ω |
| | or QVZ3518-471A | V RESISTOR | 470Ω |
| | or QVZ3523-471 | V RESISTOR | 470Ω |
| R304 | QVZ3523-473A | V RESISTOR,BIAS | 47KΩ |
| | or QVZ3518-473 | V RESISTOR | 47KΩ |
| | or QVZ3518-473A | V RESISTOR | 47KΩ |
| | or QVZ3523-473 | V RESISTOR | 47KΩ |
| R305 | QRSA08J-100YN | RESISTOR | 10Ω,1/10W |
| R427 | QVZ3523-684AZ | V RESISTOR,SP PB SW POINT | 680KΩ |
| | or QVZ3518-684 | V RESISTOR | 680KΩ |
| | or QVZ3518-684AZ | V RESISTOR | 680KΩ |
| | or QVZ3523-684 | V RESISTOR | 680KΩ |
| C301 | QCC11CJ-104 | CAPACITOR | 0.1μF,16V |
| SLD1 | PQ42995 | SHIELD CASE | |

## - SECAM COLOR BOARD ASSEMBLY<88> -

| | | | |
|---|---|---|---|
| PWBA2 | PB10579A2-01 | SECAM COLOR BOARD ASSY<88> | |
| IC501 | M51646SP | IC | |
| Q501 | 2SC4081(QRS) | TRANSISTOR | |
| Q502 | 2SC4081(QRS) | TRANSISTOR | |
| Q504 | 2SC4081(QRS) | TRANSISTOR | |
| Q505 | 2SC4081(QRS) | TRANSISTOR | |
| Q506 | 2SC4081(QRS) | TRANSISTOR | |
| Q507 | 2SC4081(QRS) | TRANSISTOR | |
| D501 | DAN202U | DIODE | |
| R501 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R502 | QVZ3523-102AZ | V RESISTOR,SECAM REC COLOR LEV | 1KΩ |
| | or QVZ3518-102 | V RESISTOR | 1KΩ |
| | or QVZ3518-102AZ | V RESISTOR | 1KΩ |
| | or QVZ3523-102 | V RESISTOR | 1KΩ |
| R503 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R504 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R505 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R506 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R508 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R509 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| R510 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R511 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R512 | QRSA08J-273YN | RESISTOR | 27KΩ,1/10W |
| R513 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R514 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R515 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R516 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R517 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R518 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R519 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R520 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R521 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| R522 | QRSA08J-121YN | RESISTOR | 120Ω,1/10W |
| R523 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R524 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R525 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R526 | QRSA08J-820YN | RESISTOR | 82Ω,1/10W |
| C501 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C502 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| C503 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C504 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C505 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C506 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C507 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C508 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C509 | QEK61EM-475 | E CAPACITOR | 4.7μF,25V |
| C510 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C511 | QEK61CM-106 | E CAPACITOR | 10μF,16V |
| C512 | QCY81EK-104 | CAPACITOR | 0.1μF,25V |
| C514 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C515 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C517 | QCYA1HK-273 | CAPACITOR | 0.027μF,50V |
| C518 | QEK60JM-226 | E CAPACITOR | 22μF,6.3V |
| C519 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C520 | QEK61CM-106 | E CAPACITOR | 10μF,16V |
| C521 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C522 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| C523 | QCF81HZ-103 | CAPACITOR | 0.01μF,50V |
| C524 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| L501 | PU59988-121JY | COIL | 120μH |
| EQ501 | PU53501-7 | EQUALIZER | |
| BPF501 | PU54437-2 | BAND PASS FILTER | |
| BPF502 | PU54421-2 | BAND PASS FILTER | |
| BPF503 | PU54420-2 | BAND PASS FILTER | |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| LC501 | PU61086 | COIL,PB BELL |
| | or PU60220 | COIL |
| LC502 | PU61087 | COIL,REC BELL |
| | or PU60221 | COIL |
| CN501 | PEMC0828-8 | CONNECTOR |
| CN502 | PEMC0828-8 | CONNECTOR |

*********************************

## A/C HEAD BOARD ASSEMBLY <12>

| | | |
|---|---|---|
| PWB1 | PB40046-01-02 | A/C HEAD BOARD |
| CN1 | PU58844-104 | CONNECTOR |
| CN2 | PU58844-103 | CONNECTOR |

*********************************

## TIMER BOARD ASSEMBLY <20>

| | | |
|---|---|---|
| PWBA | PB20560A-01 | TIMER BOARD ASSY |
| IC1 | UPD75217CW-102 | IC |
| IC2 | IC-PST523H-2 | IC |
| IC3 | SDA5642 | IC |
| Q1 | 2SC3199(G) | TRANSISTOR |
| | or 2SC3311A(RS) | TRANSISTOR |
| | or 2SC536SPA(FG) | TRANSISTOR |
| | or 2SC1740S(RS) | TRANSISTOR |
| Q2 | DTC144ES | TRANSISTOR |
| Q3 | 2SC3199(GB)-TJK | TRANSISTOR |
| D1 | RD9.1ES-T1B2 | ZENER DIODE |
| D2 | 1SS133 | DIODE |
| D3 | 1SS133 | DIODE |
| D4 | 11ES2 | DIODE |
| D5 | 11ES2 | DIODE |
| D6 | 1SS133 | DIODE |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | D28 | 1SS133 | DIODE | |
| | D32 | 1SS133 | DIODE | |
| | R1 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R4 | QRD161J-682 | RESISTOR | 6.8KΩ,1/6W |
| | R5 | QRD161J-333 | RESISTOR | 33KΩ,1/6W |
| | R6 | QRD161J-333 | RESISTOR | 33KΩ,1/6W |
| | R7 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R8 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R9 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R10 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R11 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R12 | QRD161J-333 | RESISTOR | 33KΩ,1/6W |
| | R13 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| | R14 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| | R15 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R16 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R17 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R21 | QRD161J-824 | RESISTOR | 820KΩ,1/6W |
| | R22 | QRD161J-101 | RESISTOR | 100Ω,1/6W |
| | R23 | QRD161J-562 | RESISTOR | 5.6KΩ,1/6W |
| | R24 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| | R25 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R26 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R27 | QRD161J-105 | RESISTOR | 1MΩ,1/6W |
| | R28 | QRD161J-824 | RESISTOR | 820KΩ,1/6W |
| | R29 | QRD161J-202 | RESISTOR | 2KΩ,1/6W |
| | R30 | QRD161J-224 | RESISTOR | 220KΩ,1/6W |
| | R31 | QRD161J-151 | RESISTOR | 150Ω,1/6W |
| | R32 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| | R33 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| | R34 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| | R35 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| | R36 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| | R37 | QRD161J-183 | RESISTOR | 18KΩ,1/6W |
| | R39 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| | R40 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| | R41 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R42 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| | R43 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R44 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R45 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R56 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R57 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R58 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| | R60 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | RA1 | QRB047J-333 | RESISTOR ARRAY | 33KΩ,4W |
| | | or QRB049J-333 | RARRAY | 33KΩ,4W |
| | RA2 | QRB047J-104 | NETWORK RESISTOR | 100KΩ,4W |
| | | or QRB049J-104 | NETWORK RESISTOR | 100KΩ,4W |
| | RA3 | QRB077J-104 | RESISTOR ARRAY | 100KΩ,7W |
| | | or QRB079J-104 | NETWORK RESISTOR | 100KΩ,7W |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | C1 | QER61CM-226 | E CAPACITOR | 22μF,16V |
| | C2 | QER61HM-104 | E CAPACITOR | 0.1μF,50V |
| | C3 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| | C4 | QER61CM-106 | E CAPACITOR | 10μF,16V |
| | C5 | QEA40HZ-105 | E CAPACITOR (DOUBLE) | 1F,5.5V |
| | C6 | QAT3123-200 | TRIMMER CAPACITOR,CLOCK | 20PF |
| | C7 | QCSB1HJ-120 | CAPACITOR | 12PF,50V |
| | C8 | QFN31HJ-104 | M CAPACITOR | 0.1μF,50V |
| | C9 | QFN31HJ-333 | M CAPACITOR | 0.033μF,50V |
| | C10 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| | C11 | QER61CM-106 | E CAPACITOR | 10μF,16V |
| | C12 | QCBB1HJ-151 | CAPACITOR | 150PF,50V |
| | C13 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| | C15 | QCBB1HJ-101 | CAPACITOR | 100PF,50V |
| | C16 | QCBB1HJ-101 | CAPACITOR | 100PF,50V |
| | C17 | QCF11HP-473 | CAPACITOR | 0.047μF,50V |
| | C18 | QER61CM-106 | E CAPACITOR | 10μF,16V |
| | C19 | QER61CM-106 | E CAPACITOR | 10μF,16V |
| | C21 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| | C22 | QCBB1HJ-151 | CAPACITOR | 150PF,50V |
| | C23 | QCBB1HJ-151 | CAPACITOR | 150PF,50V |
| ⚠ | X1 | PU60226-4 | CRYSTAL RESONATOR | |
| | K1 | PU60281-5 | FERRITE BEADS | |
| | K2 | PU60281-5 | FERRITE BEADS | |
| | CN1 | PU60417-107 | CONNECTOR | |
| | CN2 | PU60417-106 | CONNECTOR | |
| | CN3 | PU60417-106 | CONNECTOR | |
| | CN4 | PU60417-103 | CONNECTOR | |
| | CN5 | PU60417-113 | CONNECTOR | |
| | CN6 | PU58844-102R | CONNECTOR | |
| ⚠ | CP1 | ICP-F10 | CIRCUIT PROTECTOR | |

********************************

## JACK BOARD ASSEMBLY <22>

| REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| PWBA | PB20547A-01 | JACK BOARD ASSY | |
| D229 | 1SS133 | DIODE | |
| D401 | SLR-34VC3F | LE DIODE | |
| R1 | QRD161J-221 | RESISTOR | 220Ω,1/6W |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| R401 | PERE0474 | V RESISTOR,MIC MIX LEVEL |
| R402 | PERE0473 | V RESISTOR,REC LEVEL |
| R403 | PERE0472 | V RESISTOR,REC BALANCE |
| S1 | PU60392-2-2 | TACT SWITCH,POWER |
|  | or PU60975-2Z | TACT SWITCH |
|  | or PESW0525-02Z | TACT SWITCH |
| S13 | PU60392-1-2Z | TACT SWITCH,MIX |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S14 | PU60392-1-2Z | TACT SWITCH,A.MON |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S18 | PU60392-1-2Z | TACT SWITCH,CH PLUS/PROG/C.ADJ |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S20 | PU60392-1-2Z | TACT SWITCH,TU/SIMUL |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S21 | PU60392-1-2Z | TACT SWITCH,CANSEL/SKIP/RESET |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S22 | PU60392-1-2Z | TACT SWITCH,REPEAT/DAILY/C.MEMO |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S23 | PU60392-1-2Z | TACT SWITCH,SELECT |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S25 | PU60392-1-2Z | TACT SWITCH,SET+/CH+/TRACK+ |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S26 | PU60392-1-2Z | TACT SWITCH,SET-/CH-/TRACK- |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S27 | PU60392-1-2Z | TACT SWITCH,SP/LP |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S29 | PU60392-1-2Z | TACT SWITCH,CH SEARCH |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S30 | PU60392-1-2Z | TACT SWITCH,CH SET/VPS |
|  | or PU60975-Z | TACT SWITCH |
|  | or PESW0525-Z | TACT SWITCH |
| S37 | PU60392-2-2 | TACT SWITCH,EJECT |
|  | or PU60975-2Z | TACT SWITCH |
|  | or PESW0525-02Z | TACT SWITCH |
| S401 | PESW0551 | SLIDE SWITCH,ALC |
|  | or PESW0575 | SLIDE SWITCH |
| S402 | PESW0551 | SLIDE SWITCH,RGB REC |
|  | or PESW0575 | SLIDE SWITCH |
| S403 | PESW0551 | SLIDE SWITCH,OUTPUT SEL |
|  | or PESW0575 | SLIDE SWITCH |
| S404 | PESW0551 | SLIDE SWITCH,AC ONLINE |
|  | or PESW0575 | SLIDE SWITCH |
| S405 | PESW0550 | SLIDE SWITCH,REPEAT |
|  | or PESW0574 | SLIDE SWITCH |
| S406 | PESW0549 | SLIDE SWITCH,AV IN/OUT SEL |
|  | or PESW0573 | SLIDE SWITCH |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| CL1 | PU56729-2 | WIRE CLAMP |
| HD1 | PQM30038-3 | LED HOLDER |
| HD2 | PQM30039 | LED SHADE |
| J401 | PU60664-3 | MINI JACK |
| CN1 | PU58844-5 | CONNECTOR |
| CN2 | PU60417-7 | CONNECTOR |
| CN3 | PU60417-5 | CONNECTOR |
| CN4 | PU60417-3 | CONNECTOR |
| CN5 | PEMC0723-011 | CONNECTOR, (BOARD TO BOARD) |

*******************************

## SWITCH/DISPLAY BOARD ASSEMBLY <28>

|  |  |  |  |
|---|---|---|---|
| PWBA | PB10576A-01 | SWITCH/DISPLAY BOARD ASSY |  |
| IC101 | GP1U541X | IR DETECT UNIT |  |
| IC103 | MSC7112-01SS | IC |  |
| Q101 | 2SK658 | FE TRANSISTOR |  |
| Q104 | DTC114ES | TRANSISTOR |  |
| Q105 | DTC143TS | TRANSISTOR |  |
| Q106 | DTC143TS | TRANSISTOR |  |
| Q107 | DTC143TS | TRANSISTOR |  |
| D105 | SLR-34MC3F | LE DIODE |  |
| D106 | SLR-34MC3F | LE DIODE |  |
| D107 | SLR-34MC3F | LE DIODE |  |
| D130 | RD3.6ES-T1B1 | ZENER DIODE |  |
| R101 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R102 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R103 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R104 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| R105 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R111 | QRD161J-221 | RESISTOR | 220Ω,1/6W |
| R112 | QRD161J-221 | RESISTOR | 220Ω,1/6W |
| R113 | QRD161J-221 | RESISTOR | 220Ω,1/6W |
| R114 | PU61016 | V RESISTOR,HAED PHONE LEVEL |  |
| R115 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R126 | QRD161J-333 | RESISTOR | 33KΩ,1/6W |
| R127 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| C101 | QCBB1HJ-101 | CAPACITOR | 100PF,50V |
| C102 | QER61HM-104 | E CAPACITOR | 0.1μF,50V |
| C103 | QER60JM-336 | E CAPACITOR | 33μF,6.3V |
| C104 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C105 | QER61VM-106 | E CAPACITOR | 10μF,35V |
| C115 | QCSB1HJ-330 | CAPACITOR | 33PF,50V |
| C116 | QCSB1HJ-330 | CAPACITOR | 33PF,50V |
| C117 | QCF11HP-473 | CAPACITOR | 0.047μF,50V |
| LC101 | PU59885-102 | N FILTER | |
| LC102 | PU59885-102 | N FILTER | |
| LC103 | PU59885-223 | N FILTER | |
| LC104 | PU59885-223 | N FILTER | |
| S2 | PU60392-2-2 | TACT SWITCH,STOP | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S3 | PU60392-2-2 | TACT SWITCH,FF | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S4 | PU60392-2-2 | TACT SWITCH,REW | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S5 | PU60392-2-2 | TACT SWITCH,A DUB | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S6 | PU60392-2-2 | TACT SWITCH,REC | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S7 | PU60392-2-2 | TACT SWITCH,PLAY | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S8 | PU60392-2-2 | TACT SWITCH,PAUSE | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S15 | PU60392-2-2 | TACT SWITCH,TV/VIDEO | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S24 | PU60392-2-2 | TACT SWITCH,TIMER | |
| | or PESW0525-02Z | TACT SWITCH | |
| | or PU60975-2Z | TACT SWITCH | |
| S32 | PU60392-2-2 | TACT SWITCH,DISPLAY | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S38 | PU60392-2-2 | TACT SWITCH,S-VHS | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |
| S39 | PU60392-2-2 | TACT SWITCH,S/AV | |
| | or PU60975-2Z | TACT SWITCH | |
| | or PESW0525-02Z | TACT SWITCH | |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| S49 | PU60392-2-2 | TACT SWITCH,CH+ |
| | or PU60975-2Z | TACT SWITCH |
| | or PESW0525-02Z | TACT SWITCH |
| S50 | PU60392-2-2 | TACT SWITCH,CH− |
| | or PU60975-2Z | TACT SWITCH |
| | or PESW0525-02Z | TACT SWITCH |
| FDP101 | PEDP0040-02 | FLUORESCENT DISPLAY PANEL |
| JA1 | PU60664-3 | MINI JACK,REMOTE PAUSE |
| JA2 | PU60664 | MINI JACK,HP JACK |
| TB1 | PEMC0851 | JACK BOARD |
| HD102 | PQ33881 | FDP HOLDER(L) |
| HD103 | PQ33880 | FDP HOLDER(R) |
| HD104 | PQ40795-3-2 | LED HOLDER |
| HD105 | PQ43746 | LED SHADE |
| CN101 | PU60417-106 | CONNECTOR |
| CN102 | PU60417-106 | CONNECTOR |
| CN103 | PU60417-113 | CONNECTOR |
| CN104 | PU60417-103 | CONNECTOR |
| CN106 | PU58844-5 | CONNECTOR |
| CN107 | PU60417-3 | CONNECTOR |
| CN108 | PU58844-7 | CONNECTOR |
| CN109 | PU58844-4 | CONNECTOR |

*********************************

## PRE AMP BOARD ASSEMBLY <42>

| | | |
|---|---|---|
| PWBA | PB20473A-01 | PRE AMP BOARD ASSY |
| IC1 | TA8609F | IC |
| Q1 | 2SC2778 | TRANSISTOR |
| Q2 | 2SC2778 | TRANSISTOR |
| Q3 | 2SC2778 | TRANSISTOR |
| Q4 | 2SC2778 | TRANSISTOR |
| Q5 | 2SC2778 | TRANSISTOR |
| Q6 | 2SC2778 | TRANSISTOR |
| Q7 | 2SC2778 | TRANSISTOR |
| Q8 | 2SC2778 | TRANSISTOR |
| Q9 | 2SC2412K | TRANSISTOR |
| Q10 | 2SC2412K | TRANSISTOR |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| Q11 | DTA124EK | TRANSISTOR | |
| Q12 | DTA124EK | TRANSISTOR | |
| Q13 | DTC144EK | TRANSISTOR | |
| Q14 | DTC144EK | TRANSISTOR | |
| D1 | DAP202K | DIODE | |
| D2 | DAP202K | DIODE | |
| R1 | QRSA08J-100YN | RESISTOR | 10Ω,1/10W |
| R2 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R3 | QRSA08J-100YN | RESISTOR | 10Ω,1/10W |
| R4 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R5 | QRSA08J-100YN | RESISTOR | 10Ω,1/10W |
| R6 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R7 | QRSA08J-100YN | RESISTOR | 10Ω,1/10W |
| R8 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| R9 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R10 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R11 | NVP1301-152N | V RESISTOR | 1.5KΩ |
| R12 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R13 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R14 | NVP1301-152N | V RESISTOR | 1.5KΩ |
| R15 | NVP1301-152N | V RESISTOR | 1.5KΩ |
| R16 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R17 | NVP1301-152N | V RESISTOR | 1.5KΩ |
| R18 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R19 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R20 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R21 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R22 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R23 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R24 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R25 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |
| R26 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R27 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |
| C1 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C2 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C3 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C4 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C6 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C7 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C8 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C9 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C10 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C11 | PU60733-200 | TRIMMER CAPACITOR | 20PF |
| | or PECA0779-200X | TRIMMER CAPACITOR | |
| C12 | PU60733-300 | TRIMMER CAPACITOR | 30PF |
| | or PECA0779-300X | TRIMMER CAPACITOR | |
| C13 | PU60733-200 | TRIMMER CAPACITOR | 20PF |
| | or PECA0779-200X | TRIMMER CAPACITOR | |
| C14 | PU60733-200 | TRIMMER CAPACITOR | 20PF |
| | or PECA0779-200X | TRIMMER CAPACITOR | |
| C15 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C16 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C17 | QER41HM-105 | E CAPACITOR | 1µF,50V |
| C18 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C19 | QER41HM-105 | E CAPACITOR | 1µF,50V |
| C20 | QER41HM-105 | E CAPACITOR | 1µF,50V |
| C21 | QCSA1HJ-101 | CAPACITOR | 100PF,50V |
| C22 | QER41HM-105 | E CAPACITOR | 1µF,50V |
| C23 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C24 | QER40JM-476 | E CAPACITOR | 47µF,6.3V |
| C25 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C30 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C31 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C32 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C33 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C34 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| L1 | PU59988-100J | COIL | 10µH |
| L2 | PU59988-120J | COIL | 12µH |
| L3 | PU59988-100J | COIL | 10µH |
| L4 | PU59988-120J | COIL | 12µH |
| L5 | PU48530-101K | COIL | 100µH |
| SLD1 | PQ33385A-2 | SHIELD PLATE ASSY | |
| SLD2 | PQ33468-1-4 | SHIELD COVER(1) | |
| SLD3 | PQ44696 | SHIELD COVER(2) | |
| TP1 | PU56008 | TEST-PIN | |
| CN1 | YU40106-13 | CONNECTOR | |
| CN2 | PU58844-3 | CONNECTOR | |
| CN3 | PU58250-18 | CONNECTOR | |

********************************

## REC BOARD ASSEMBLY <43>

| | | | |
|---|---|---|---|
| PWBA | PB10404D | REC AMP BOARD ASSY | |
| CL1 | PU59311-3 | WIRE CLAMP | |
| CL2 | PU56729-2 | WIRE CLAMP | |
| SLD1 | PQ21044-1-1 | SHIELD FRAME | |
| SLD2 | PQ21045-1-2 | SHIELD CASE | |
| SLD3 | PQ33421-1-1 | SHIELD PLATE | |

### – VIDEO REC SECTION –

| | | | |
|---|---|---|---|
| IC1 | TA8733F | IC | |
| IC2 | JCP0023 | IC | |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| Q2 | 2SC4081(QRS) | TRANSISTOR | |
| Q4 | DTA124EU | TRANSISTOR | |
| Q5 | DTA124EU | TRANSISTOR | |
| Q6 | DTC144EU | TRANSISTOR | |
| Q7 | 2SC4081(QRS) | TRANSISTOR | |
| Q8 | 2SA1576(QR) | TRANSISTOR | |
| Q9 | 2SC4081(QRS) | TRANSISTOR | |
| Q10 | 2SC4081(QRS) | TRANSISTOR | |
| Q13 | 2SA1576(QR) | TRANSISTOR | |
| Q14 | 2SC4081(QRS) | TRANSISTOR | |
| Q15 | 2SA1576(QR) | TRANSISTOR | |
| Q16 | DTC144EU | TRANSISTOR | |
| Q17 | 2SC4081(QRS) | TRANSISTOR | |
| Q18 | 2SC4081(QRS) | TRANSISTOR | |
| Q19 | 2SA1577(QR) | TRANSISTOR | |
| Q20 | DTC124EU | TRANSISTOR | |
| Q21 | 2SA1577(QR) | TRANSISTOR | |
| Q23 | 2SC4081(QRS) | TRANSISTOR | |
| Q24 | 2SC4081(QRS) | TRANSISTOR | |
| Q25 | DTC114EU | TRANSISTOR | |
| Q29 | 2SA1267(YG)JK | TRANSISTOR | |
| | or 2SA933S(RS) | TRANSISTOR | |
| Q30 | DTA124EU | TRANSISTOR | |
| Q31 | DTC144WU | TRANSISTOR | |
| D1 | DAN202U | DIODE | |
| D2 | DAN202U | DIODE | |
| D3 | DAN202U | DIODE | |
| D4 | DAN202U | DIODE | |
| D5 | DAN202U | DIODE | |
| D6 | DAN202U | DIODE | |
| R1 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R2 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R3 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R4 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R5 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R6 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R7 | QRSA08J-823YN | RESISTOR | 82KΩ,1/10W |
| R9 | QRSA08J-121YN | RESISTOR | 120Ω,1/10W |
| R10 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R11 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R12 | QRSA08J-275YN | RESISTOR | 2.7MΩ,1/10W |
| R17 | QRSA08F-1693YN | RESISTOR | 169KΩ,1/10W |
| R18 | QRSA08F-1103YN | RESISTOR | 110KΩ,1/10W |
| R19 | QRSA08F-1433YN | RESISTOR | 143KΩ,1/10W |
| R20 | QRSA08F-1783YN | RESISTOR | 178KΩ,1/10W |
| R21 | QRSA08F-1203YN | RESISTOR | 120KΩ,1/10W |
| R22 | QRSA08F-1183YN | RESISTOR | 118KΩ,1/10W |
| R23 | QVPA603-104 | V RESISTOR,REC FM LEVEL | 100KΩ,16W |
| R25 | QRSA08J-623YN | RESISTOR | 62KΩ,1/10W |
| R26 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R27 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R29 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R30 | QRSA08J-153YN | RESISTOR | 15KΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R31 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R32 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R33 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R34 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R35 | QVPA603-222 | V RESISTOR,S SP VIDEO EQ | 2.2KΩ,16W |
| R36 | QVPA603-152 | V RESISTOR,S LP VIDEO EQ | 1.5KΩ,16W |
| R39 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R40 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| R41 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |
| R42 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R43 | QRSA08J-362YN | RESISTOR | 3.6KΩ,1/10W |
| R44 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R45 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R46 | QRSA08J-223YN | RESISTOR | 22KΩ,1/10W |
| R47 | QRSA08J-151YN | RESISTOR | 150Ω,1/10W |
| R48 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R49 | QRSA08J-183YN | RESISTOR | 18KΩ,1/10W |
| R50 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R51 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R52 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R53 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R57 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R58 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R59 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R60 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R61 | QRSA08J-122YN | RESISTOR | 1.2KΩ,1/10W |
| R62 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R63 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R64 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R65 | QVPA603-682 | V RESISTOR,N SP VIDEO EQ | 6.8KΩ,16W |
| R66 | QVPA603-332 | V RESISTOR,N LP VIDEO EQ | 3.3KΩ,16W |
| R69 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R70 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R71 | QRSA08J-273YN | RESISTOR | 27KΩ,1/10W |
| R72 | QRSA08J-393YN | RESISTOR | 39KΩ,1/10W |
| R73 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R74 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R75 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R76 | QRSA08J-393YN | RESISTOR | 39KΩ,1/10W |
| R77 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| R80 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R81 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R82 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R83 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R84 | QRSA08J-390YN | RESISTOR | 39Ω,1/10W |
| R85 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| R86 | QRSA08J-182YN | RESISTOR | 1.8KΩ,1/10W |
| R87 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R90 | QVPA603-332 | V RESISTOR,LP REC COLOR LEVEL | 3.3KΩ,16W |
| R91 | QVPA603-332 | V RESISTOR,SP REC COLOR LEVEL | 3.3KΩ,16W |
| R92 | QRSA08J-563YN | RESISTOR | 56KΩ,1/10W |
| R93 | QRSA08J-153YN | RESISTOR | 15KΩ,1/10W |
| R94 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R95 | QRSA08J-393YN | RESISTOR | 39KΩ,1/10W |
| R96 | QRSA08J-183YN | RESISTOR | 18KΩ,1/10W |
| R97 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R98 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| R100 | QRSA08J-333YN | RESISTOR | 33KΩ,1/10W |
| R107 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R109 | QRSA08J-272YN | RESISTOR | 2.7KΩ,1/10W |
| C1 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C2 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C3 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C4 | QCSA1HJ-121 | CAPACITOR | 120PF,50V |
| C5 | QCSA1HJ-331 | CAPACITOR | 330PF,50V |
| C6 | QCSA1HJ-121 | CAPACITOR | 120PF,50V |
| C7 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C8 | QCSA1HJ-560 | CAPACITOR | 56PF,50V |
| C9 | QCSA1HJ-271 | CAPACITOR | 270PF,50V |
| C10 | QCSA1HJ-151 | CAPACITOR | 150PF,50V |
| C11 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C12 | QER40JM-476 | E CAPACITOR | 47μF,6.3V |
| C13 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C14 | QER41HM-104 | E CAPACITOR | 0.1μF,50V |
| C15 | QFN41HJ-223 | M CAPACITOR | 0.022μF,50V |
| C16 | QFN31HJ-223 | M CAPACITOR | 0.022μF,50V |
| C17 | QCFA1EZ-104 | CAPACITOR | 0.1μF,25V |
| C18 | QCSA1HJ-820 | CAPACITOR | 82PF,50V |
| C19 | QCFA1EZ-104 | CAPACITOR | 0.1μF,25V |
| C20 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C21 | QCFA1EZ-104 | CAPACITOR | 0.1μF,25V |
| C22 | QFN41HJ-223 | M CAPACITOR | 0.022μF,50V |
| C23 | QFN41HJ-223 | M CAPACITOR | 0.022μF,50V |
| C24 | QCFA1EZ-104 | CAPACITOR | 0.1μF,25V |
| C26 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C27 | QEK41CM-107 | E CAPACITOR | 100μF,16V |
| C28 | QETA0JM-476 | E CAPACITOR | 47μF,6.3V |
| C29 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C30 | QCSA1HJ-680 | CAPACITOR | 68PF,50V |
| C31 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C32 | QCSA1HJ-180 | CAPACITOR | 18PF,50V |
| C33 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C34 | QCSA1HJ-390 | CAPACITOR | 39PF,50V |
| C38 | QCSA1HJ-120 | CAPACITOR | 12PF,50V |
| C39 | QCSA1HJ-120 | CAPACITOR | 12PF,50V |
| C40 | QCSA1HJ-390 | CAPACITOR | 39PF,50V |
| C42 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C43 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C44 | QCSA1HJ-560 | CAPACITOR | 56PF,50V |
| C45 | QCSA1HJ-560 | CAPACITOR | 56PF,50V |
| C48 | QCSA1HJ-150 | CAPACITOR | 15PF,50V |
| C49 | QCSA1HJ-120 | CAPACITOR | 12PF,50V |
| C50 | QCSA1HJ-6R0 | CAPACITOR | 6PF,50V |
| C51 | QCSA1HJ-510 | CAPACITOR | 51PF,50V |
| C52 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C54 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C55 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C57 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| C58 | QCFA1EZ-104 | CAPACITOR | 0.1μF,25V |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C61 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C62 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C63 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C64 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C65 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| C66 | QCSA1HJ-130 | CAPACITOR | 13PF,50V |
| C67 | QCFA1EZ-104 | CAPACITOR | 0.1μF,25V |
| C69 | QEP41HM-105 | NP E CAPACITOR | 1μF,50V |
| C75 | QCBB1HJ-101 | CAPACITOR | 100PF,50V |
| L1 | PU59988-181J | COIL | 180μH |
| L2 | PU59988-330J | COIL | 33μH |
| L3 | PU59988-820J | COIL | 82μH |
| L4 | PU59988-101J | COIL | 100μH |
| L5 | PU59988-330J | COIL | 33μH |
| L6 | PU48530-101K | COIL | 100μH |
| L7 | PU59988-5R6J | COIL | 5.6μH |
| L8 | PU48530-101K | COIL | 100μH |
| L9 | PU59988-560J | COIL | 56μH |
| L10 | PU59988-150J | COIL | 15μH |
| L11 | PU59988-390J | COIL | 39μH |
| L12 | PU59988-221J | COIL | 220μH |
| L13 | PU59988-100J | COIL | 10μH |
| L14 | PU59988-220JY | COIL | 22μH |
| L15 | PU59988-270J | COIL | 27μH |
| L16 | PU59988-820J | COIL | 82μH |
| L17 | PU59988-180J | COIL | 18μH |
| L18 | PU59988-180J | COIL | 18μH |
| L19 | PU48530-101K | COIL | 100μH |
| L20 | PU59988-680J | COIL | 68μH |
| L22 | PU59988-181J | COIL | 180μH |
| L23 | PU59988-181J | COIL | 180μH |
| CN1 | PU56258-18 | CONNECTOR | |
| CN2 | PU58844-3R | CONNECTOR | |
| CN3 | PU58844-3 | CONNECTOR | |
| CN4 | PU60417-4 | CONNECTOR | |
| CN5 | PU58844-8Y | CONNECTOR | |
| CN6 | PU60417-3 | CONNECTOR | |

## – FMA P/R SECTION –

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| IC201 | AN3380NK | IC | |
| Q201 | DTC124TU | TRANSISTOR | |
| Q202 | DTC124TU | TRANSISTOR | |
| Q203 | DTC114EU | TRANSISTOR | |
| Q204 | 2SC4081(QRS) | TRANSISTOR | |
| Q205 | DTA114EU | TRANSISTOR | |
| Q206 | DTC114EU | TRANSISTOR | |
| D203 | 1SS133 | DIODE | |
| D204 | 1SS133 | DIODE | |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | R201 | NRVA62D-273N | RESISTOR | 27KΩ,1/16W |
| | R202 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| | R203 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| | R204 | QRSA08J-274YN | RESISTOR | 270KΩ,1/10W |
| | R205 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| | R206 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |
| | R207 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| | R208 | QRSA08J-332YN | RESISTOR | 3.3KΩ,1/10W |
| | R210 | QRSA08J-103YN | RESISTOR | 10KΩ,1/10W |
| | R211 | QRSA08J-152YN | RESISTOR | 1.5KΩ,1/10W |
| | R212 | QRSA08J-222YN | RESISTOR | 2.2KΩ,1/10W |
| | R213 | QRSA08J-102YN | RESISTOR | 1KΩ,1/10W |
| | R214 | QRSA08J-560YN | RESISTOR | 56Ω,1/10W |
| | R215 | QRSA08J-560YN | RESISTOR | 56Ω,1/10W |
| | R216 | QVZ3521-331Z | V RESISTOR,FMA REC LEVEL | 330Ω |
| | R217 | QRSA08J-153YN | RESISTOR | 15KΩ,1/10W |
| | C201 | QCFA1EZ-104 | CAPACITOR | 0.1μF,25V |
| | C202 | QCSA1HJ-391 | CAPACITOR | 390PF,50V |
| | C203 | QCSA1HJ-561 | CAPACITOR | 560PF,50V |
| | C204 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| | C205 | QCSA1HJ-561 | CAPACITOR | 560PF,50V |
| | C206 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| | C207 | QCFA1CZ-224 | CAPACITOR | 0.22μF,16V |
| | C208 | QCSA1HJ-391 | CAPACITOR | 390PF,50V |
| | C209 | QEK60JM-107 | E CAPACITOR | 100μF,6.3V |
| | C210 | QCYA1HJ-103 | CAPACITOR | 0.01μF,50V |
| | C211 | QCYA1HJ-103 | CAPACITOR | 0.01μF,50V |
| | C214 | QCSA1HJ-330 | CAPACITOR | 33PF,50V |
| | C215 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| | C216 | QCYA1HJ-103 | CAPACITOR | 0.01μF,50V |
| | C217 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| | C218 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| | C219 | QCYA1HJ-103 | CAPACITOR | 0.01μF,50V |
| | C220 | QEK61EM-476 | E CAPACITOR | 47μF,25V |
| | C221 | QCYA1HJ-103 | CAPACITOR | 0.01μF,50V |
| | C224 | QCFA1CZ-224 | CAPACITOR | 0.22μF,16V |
| | L201 | PU48530-101K | COIL | 100μH |
| | BPF201 | PELN0374 | BAND PASS FILTER | |
| | TP53 | PU60142-2 | TEST PIN,X2(TP53,TP54) | |
| | CN201 | PU58844-8 | CONNECTOR | |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|

*******************************

## DECK TERMINAL BOARD ASSEMBLY <51>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | PWBA | PB10320D-01 | DECK TERMINAL BOARD ASSY <51> | |
| | Q1 | PU60625 | END SENSOR | |
| | R3 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| | R4 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| | R5 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| | R8 | NTH5D473KB | THERMISTOR | |
| | | or ERT-D2ZHK473S | NEGA THERMISTOR | |
| | | or NTH5D473KA | RESISTOR | |
| | C1 | QCVB1CM-103 | CAPACITOR | 0.01μF,16V |
| | PS1 | PS5705HR | PH INTERRUPTER | |
| | PS2 | PS5705HR | PH INTERRUPTER | |
| ⚠ | TH601 | PESC1041 | POSI THERMISTOR | |
| | CN1 | PEMC0722-018 | WIRE TRAP | |
| | | or PEMC0753-018 | WIRE TRAP | |
| | CN2 | PU60642 | CONNECTOR(7PIN) | |
| | CN3 | PU60640 | CONNECTOR(4PIN) | |

*******************************

## LOADING MDA BOARD ASSEMBLY <55>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | PWBA2 | PB30150A | LOADING MDA BOARD ASSY<55> | |
| ⚠ | IC1 | BA6418N | IC | |
| ⚠ | | or XRA6418N | IC | |
| | C1 | QETA1CM-227 | E CAPACITOR | 220μF,16V |
| | C3 | QETA1HM-105 | E CAPACITOR | 1μF,50V |
| | CN1 | PU59555-104 | CAP HOUSING | |
| | CN2 | PU58844-2 | CONNECTOR | |

*********************************

## CASSETTE HOUSING BOARD ASSEMBLY <56>

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| PWB1 | PB40061 | CASSETTE HOUSING BOARD | |
| Q2 | PN268VI | PHOTO TRANSISTOR | |
| D1 | UZ5.1BSB | ZENER DIODE | |
| | or RD5.1ESB2 | ZENER DIODE | |
| R1 | QRD162J-473 | RESISTOR | 47KΩ,1/6W |
| R2 | QRD182J-681 | RESISTOR | 680Ω,1/8W |
| R3 | QRD122J-102S | RESISTOR | 1KΩ,1/2W |
| C1 | QCC11EJ-103 | CAPACITOR | 0.01μF,25V |
| PHS3 | PU60629 | CASS.SENSOR | |
| TH1 | ERT-D2FHJ503S | THERMISTOR | |
| | or ERT-D2FHK503S | THERMISTOR | |
| CN2 | PU60639 | 4PIN SOCKET | |

*********************************

## UPPER DRUM BOARD<62><63>

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| PWB1 | PDM3139 | BOARD (UPPER DRUM) |

*********************************

## SECAM PROCESS BOARD ASSEMBLY <87>

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| PWBA | PB10581A-01 | SECAM PROCESS BOARD ASSY |
| TP | PU57545 | TEST PIN,X22 |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| CN1 | PU58844-6R | CONNECTOR |
| CN2 | PU58844-6Y | CONNECTOR |
| CN3 | PU59555-3 | CONNECTOR |
| CN4 | PU58844-2Y | CONNECTOR |
| CN5 | PU58844-6 | CONNECTOR |
| CN6 | PU58844-7 | CONNECTOR |
| CN7 | PU58844-3 | CONNECTOR |
| CN8 | PU58844-4 | CONNECTOR |
| CN9 | PU58844-5 | CONNECTOR |
| CN10 | PU58844-4R | CONNECTOR |
| CN11 | PU58844-2 | CONNECTOR |
| CN12 | PU58844-4 | CONNECTOR |
| CN13 | PU60417-4 | CONNECTOR |
| CN14 | PU58844-2R | CONNECTOR |
| CN15 | PU58844-2 | CONNECTOR |
| CN16 | PU58844-2 | CONNECTOR |

### – AUDIO SWITCH SECTION –

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| IC1 | MC14053BCP | IC | |
| | or UPD4053BC | IC | |
| IC2 | MC14053BCP | IC | |
| | or UPD4053BC | IC | |
| IC3 | LA7222 | IC | |
| Q1 | 2SC3311A(RS) | TRANSISTOR | |
| Q2 | 2SC1740S(RS) | TRANSISTOR | |
| | or 2SC3199(G) | TRANSISTOR | |
| Q3 | 2SC1740S(RS) | TRANSISTOR | |
| | or 2SC3199(G) | TRANSISTOR | |
| R1 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R2 | QRD161J-562 | RESISTOR | 5.6KΩ,1/6W |
| R3 | QRD161J-562 | RESISTOR | 5.6KΩ,1/6W |
| R4 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R5 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R6 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R7 | QRD162J-101 | RESISTOR | 100Ω,1/6W |
| R8 | QRD162J-101 | RESISTOR | 100Ω,1/6W |
| R9 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| R10 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| R13 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| R14 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| R15 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| R16 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| R17 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R18 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R19 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R20 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R21 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R22 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R23 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R24 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R25 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R26 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R27 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R28 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R29 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R30 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R31 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R32 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R33 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R34 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| R35 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| R36 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| R37 | QRD161J-563 | RESISTOR | 56KΩ,1/6W |
| R38 | QRD161J-563 | RESISTOR | 56KΩ,1/6W |
| R39 | QRD161J-563 | RESISTOR | 56KΩ,1/6W |
| R40 | QRD161J-563 | RESISTOR | 56KΩ,1/6W |
| C1 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C2 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C3 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C4 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C5 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C6 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C7 | QETC1CM-226 | E CAPACITOR | 22μF,16V |
| C8 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C9 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C10 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C11 | QENC1CM-106 | NP E CAPACITOR | 10μF,16V |
| C12 | QENC1CM-106 | NP E CAPACITOR | 10μF,16V |
| C13 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C14 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C15 | QENC1CM-106 | NP E CAPACITOR | 10μF,16V |
| C16 | QENC1CM-106 | NP E CAPACITOR | 10μF,16V |
| C17 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C18 | QETC1CM-107 | E CAPACITOR | 100μF,16V |
| C19 | QETC1AM-476 | E CAPACITOR | 47μF,10V |
| C20 | QETC1AM-476 | E CAPACITOR | 47μF,10V |
| C21 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C22 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C23 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C24 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C25 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C26 | QENC1CM-226 | NP E CAPACITOR | 22μF,16V |
| C27 | QCBB1HJ-101 | CAPACITOR | 100PF,50V |
| C28 | QCBB1HJ-101 | CAPACITOR | 100PF,50V |

## – SECAM → PAL SECTION –

| | | |
|---|---|---|
| IC201 | TDA2594 | IC |
| IC202 | TDA3592A | IC |
| IC203 | CD4040BE | IC |
| | or UPD4040BC | IC |
| IC204 | MC74HC4538N | IC |
| | or TC74HC4538P | IC |
| IC205 | M52684AP | IC |
| Q201 | DTA144ES | TRANSISTOR |
| Q202 | 2SC3199-TJK | TRANSISTOR |
| | or 2SC1740S(QRS) | TRANSISTOR |
| Q203 | 2SC3199-TJK | TRANSISTOR |
| | or 2SC1740S(QRS) | TRANSISTOR |
| Q204 | 2SC3199-TJK | TRANSISTOR |
| | or 2SC1740S(QRS) | TRANSISTOR |
| Q206 | DTC144ES | TRANSISTOR |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| Q207 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q208 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q209 | DTA144ES | TRANSISTOR | |
| Q210 | DTC144ES | TRANSISTOR | |
| Q211 | DTC144ES | TRANSISTOR | |
| Q212 | DTC144ES | TRANSISTOR | |
| Q213 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q214 | DTC143ES | TRANSISTOR | |
| Q215 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q216 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| D201 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D202 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D203 | 1SS99 | DIODE | |
| D204 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D205 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D206 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D207 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D208 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D209 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D210 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D211 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D212 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D213 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| R201 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R202 | QRD161J-822 | RESISTOR | 8.2KΩ,1/6W |
| R203 | QRD161J-125 | RESISTOR | 1.2MΩ,1/6W |
| R204 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R205 | QRD161J-562 | RESISTOR | 5.6KΩ,1/6W |
| R206 | QRD161J-823 | RESISTOR | 82KΩ,1/6W |
| R207 | QRD161J-123 | RESISTOR | 12KΩ,1/6W |
| R208 | QRD161J-124 | RESISTOR | 120KΩ,1/6W |
| R209 | QRD161J-152 | RESISTOR | 1.5KΩ,1/6W |
| R210 | QVZ3523-473A | V RESISTOR,FH OSC | 47KΩ |
| | or QVZ3518-473 | V RESISTOR | 47KΩ |
| | or QVZ3518-473A | V RESISTOR | 47KΩ |
| | or QVZ3523-473 | V RESISTOR | 47KΩ |
| R211 | QRD161J-152 | RESISTOR | 1.5KΩ,1/6W |
| R212 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R213 | QRD161J-272 | RESISTOR | 2.7KΩ,1/6W |
| R214 | QRD161J-623 | RESISTOR | 62KΩ,1/6W |
| R215 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R216 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R218 | QRD161J-682 | RESISTOR | 6.8KΩ,1/6W |
| R219 | QRD161J-680 | RESISTOR | 68Ω,1/6W |
| R220 | QRD161J-821 | RESISTOR | 820Ω,1/6W |
| R221 | QVZ3523-102AZ | V RESISTOR,BURST LEVEL-1 | 1KΩ |
| | or QVZ3518-102 | V RESISTOR | 1KΩ |
| | or QVZ3518-102AZ | V RESISTOR | 1KΩ |
| | or QVZ3523-102 | V RESISTOR | 1KΩ |
| R222 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R226 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R227 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R228 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| R229 | QVZ3523-102AZ | V RESISTOR,COLOR PHASE-1 | 1KΩ |
| | or QVZ3518-102 | V RESISTOR | 1KΩ |
| | or QVZ3518-102AZ | V RESISTOR | 1KΩ |
| | or QVZ3523-102 | V RESISTOR | 1KΩ |
| R230 | QRD161J-123 | RESISTOR | 12KΩ,1/6W |
| R233 | QRD161J-152 | RESISTOR | 1.5KΩ,1/6W |
| R234 | QRD161J-681 | RESISTOR | 680Ω,1/6W |
| R235 | QRD161J-391 | RESISTOR | 390Ω,1/6W |
| R236 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R237 | QVZ3523-102AZ | V RESISTOR,COLOR PHASE-3 | 1KΩ |
| | or QVZ3518-102 | V RESISTOR | 1KΩ |
| | or QVZ3518-102AZ | V RESISTOR | 1KΩ |
| | or QVZ3523-102 | V RESISTOR | 1KΩ |
| R238 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R239 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R240 | QRD161J-224 | RESISTOR | 220KΩ,1/6W |
| R241 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R242 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R243 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| R244 | QRD161J-183 | RESISTOR | 18KΩ,1/6W |
| R245 | QRD161J-302 | RESISTOR | 3KΩ,1/6W |
| R246 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R247 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R248 | QRD161J-152 | RESISTOR | 1.5KΩ,1/6W |
| R249 | QRD161J-271 | RESISTOR | 270Ω,1/6W |
| R250 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R251 | QRD161J-154 | RESISTOR | 150KΩ,1/6W |
| R252 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R254 | QRD161J-392 | RESISTOR | 3.9KΩ,1/6W |
| R256 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R258 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| R259 | QRD161J-563 | RESISTOR | 56KΩ,1/6W |
| R260 | QRD161J-562 | RESISTOR | 5.6KΩ,1/6W |
| C201 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C202 | QCC11CJ-104 | CAPACITOR | 0.1µF,16V |
| C203 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C204 | QFP32AJ-472M | M CAPACITOR | 0.0047µF,100V |
| C205 | QFV71HJ-474 | TF CAPACITOR | 0.47µF,50V |
| C206 | QFN31HJ-224 | M CAPACITOR | 0.22µF,50V |
| C207 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C208 | QCXB1CM-182 | CAPACITOR | 0.0018µF,16V |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C209 | QETC1CM-107 | E CAPACITOR | 100µF,16V |
| C210 | QETC1CM-227 | E CAPACITOR | 220µF,16V |
| C211 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C212 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C213 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C214 | QCSB1HJ-120 | CAPACITOR | 12PF,50V |
| C215 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C216 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C217 | QETC1CM-476 | E CAPACITOR | 47µF,16V |
| C218 | QETC1HM-105 | E CAPACITOR | 1µF,50V |
| C219 | QCSB1HJ-330 | CAPACITOR | 33PF,50V |
| C220 | QCBB1HJ-821 | CAPACITOR | 820PF,50V |
| C221 | QCC11CJ-104 | CAPACITOR | 0.1µF,16V |
| C222 | QCC11CJ-104 | CAPACITOR | 0.1µF,16V |
| C223 | QCT25CH-181 | CAPACITOR | 180PF |
| C224 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C225 | QCBB1HJ-102 | CAPACITOR | 0.001µF,50V |
| C226 | QCBB1HJ-102 | CAPACITOR | 0.001µF,50V |
| C227 | QCBB1HJ-102 | CAPACITOR | 0.001µF,50V |
| C228 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C230 | QAT3123-300 | TRIM CAP, SC FERQ-2 | 30PF |
| C231 | QETC1CM-106 | E CAPACITOR | 10µF,16V |
| C232 | QETC1HM-104 | E CAPACITOR | 0.1µF,50V |
| C233 | QCC11CJ-104 | CAPACITOR | 0.1µF,16V |
| C234 | QCC11CJ-104 | CAPACITOR | 0.1µF,16V |
| C235 | QCT25CH-271 | CAPACITOR | 270PF |
| C236 | QCC11CJ-104 | CAPACITOR | 0.1µF,16V |
| C237 | QCBB1HJ-101 | CAPACITOR | 100PF,50V |
| C238 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C239 | QETC1HM-105 | E CAPACITOR | 1µF,50V |
| C240 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C241 | QCSB1HJ-220 | CAPACITOR | 22PF,50V |
| C242 | QCXB1CM-152 | CAPACITOR | 0.0015µF,16V |
| C243 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C244 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C245 | QETC1EM-335 | E CAPACITOR | 3.3µF,25V |
| C246 | QCBB1HJ-331 | CAPACITOR | 330PF,50V |
| C247 | QCXB1CM-222 | CAPACITOR | 0.0022µF,16V |
| C248 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C249 | QCVB1CN-822 | CAPACITOR | 0.0082µF,16V |
| C250 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C251 | QFN31HJ-473 | M CAPACITOR | 0.047µF,50V |
| C252 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C253 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C254 | QCBB1HJ-102 | CAPACITOR | 0.001µF,50V |
| C255 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C256 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C257 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C259 | QCT25CH-121 | CAPACITOR | 120PF |
| C260 | QCBB1HJ-102 | CAPACITOR | 0.001µF,50V |
| L202 | PU59988-100J | COIL | 10µH |
| L203 | PU60898-2 | V COIL,COLOR PHASE-2 | |
| L204 | PU48530-101K | COIL | 100µH |
| L205 | PU60898-2 | V COIL,COLOR PHASE-4 | |
| L206 | PU59988-8R2JY | COIL | 8.2µH |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | L207 | PU60898 | COIL, BELL FILTER | |
| | L208 | PU48530-101K | COIL | 100μH |
| | L209 | PU48530-101K | COIL | 100μH |
| | L210 | PU48530-101K | COIL | 100μH |
| | EQ201 | PU60900 | EQUALIZER | |
| ⚠ | CF201 | PU60086 | RESONATOR | |
| | DL201 | PU60904 | DELAY LINE | |
| ⚠ | X201 | PU59335 | CRYSTAL RESONATOR | |
| ⚠ | TH201 | PU52108-100 | POSITIVE THERMISTOR | |
| ⚠ | TH202 | PU52108-100 | POSITIVE THERMISTOR | |

## – PAL → SECAM SECTION –

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | IC301 | BA236 | IC | |
| | IC302 | BA236 | IC | |
| | IC303 | HA11770AMP | IC | |
| | Q301 | DTC144ES | TRANSISTOR | |
| | Q302 | DTC144ES | TRANSISTOR | |
| | Q303 | DTC144ES | TRANSISTOR | |
| | Q304 | DTC144ES | TRANSISTOR | |
| | Q305 | 2SA1267(YG)-TJK | TRANSISTOR | |
| | | or 2SA933S(RS) | TRANSISTOR | |
| | Q306 | 2SA1267(YG)-TJK | TRANSISTOR | |
| | | or 2SA933S(RS) | TRANSISTOR | |
| | Q307 | 2SC3199-TJK | TRANSISTOR | |
| | | or 2SC1740S(QRS) | TRANSISTOR | |
| | Q308 | 2SC3199-TJK | TRANSISTOR | |
| | | or 2SC1740S(QRS) | TRANSISTOR | |
| | Q309 | 2SC3199-TJK | TRANSISTOR | |
| | | or 2SC1740S(QRS) | TRANSISTOR | |
| | Q310 | 2SC3199-TJK | TRANSISTOR | |
| | | or 2SC1740S(QRS) | TRANSISTOR | |
| | Q311 | 2SC3199-TJK | TRANSISTOR | |
| | | or 2SC1740S(QRS) | TRANSISTOR | |
| | Q312 | DTA144ES | TRANSISTOR | |
| | Q313 | DTC143ES | TRANSISTOR | |
| | D301 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D302 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D303 | 1SS99 | DIODE | |
| | D304 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D305 | 1SS99 | DIODE | |
| | D306 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D307 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D308 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D309 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D310 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | D311 | 1SS133 | DIODE | |
| | | or MA165 | DIODE | |
| | R301 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| | R302 | QRD161J-332 | RESISTOR | 3.3KΩ,1/6W |
| | R303 | QRD161J-562 | RESISTOR | 5.6KΩ,1/6W |
| | R304 | QRD161J-332 | RESISTOR | 3.3KΩ,1/6W |
| | R305 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| | R306 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| | R307 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| | R308 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| | R309 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| | R310 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| | R311 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| | R312 | QVZ3523-472A | V RESISTOR,PAL VCO | 4.7KΩ |
| | | or QVZ3518-472 | V RESISTOR | 4.7KΩ |
| | | or QVZ3518-472A | V RESISTOR | 4.7KΩ |
| | | or QVZ3523-472 | V RESISTOR | 4.7KΩ |
| | R313 | QRD161J-333 | RESISTOR | 33KΩ,1/6W |
| | R314 | QVZ3523-223A | V RESISTOR,SECAM MOD VCO-2 | 22KΩ |
| | | or QVZ3518-223 | V RESISTOR | 22KΩ |
| | | or QVZ3518-223A | V RESISTOR | 22KΩ |
| | | or QVZ3523-223 | V RESISTOR | 22KΩ |
| | R315 | QRV144F-5600AY | CMF RESISTOR | 560Ω,1/4W |
| | R316 | QRD161J-820 | RESISTOR | 82Ω,1/6W |
| | R317 | QRD161J-820 | RESISTOR | 82Ω,1/6W |
| | R318 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| | R319 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| | R320 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| | R322 | QVZ3523-222AZ | V RESISTOR,PAL COLOR PHASE-4 | 2.2KΩ |
| | | or QVZ3518-222 | V RESISTOR | 2.2KΩ |
| | | or QVZ3518-222AZ | V RESISTOR | 2.2KΩ |
| | | or QVZ3523-222 | V RESISTOR | 2.2KΩ |
| | R323 | QRD161J-751 | RESISTOR | 750Ω,1/6W |
| | R324 | QVZ3523-102AZ | V RESISTOR,PAL COLOR PHASE-1 | 1KΩ |
| | | or QVZ3518-102 | V RESISTOR | 1KΩ |
| | | or QVZ3518-102AZ | V RESISTOR | 1KΩ |
| | | or QVZ3523-102 | V RESISTOR | 1KΩ |
| | R325 | QRD161J-751 | RESISTOR | 750Ω,1/6W |
| | R326 | QVZ3523-102AZ | V RESISTOR,PAL COLOR PHASE-2 | 1KΩ |
| | | or QVZ3518-102 | V RESISTOR | 1KΩ |
| | | or QVZ3518-102AZ | V RESISTOR | 1KΩ |
| | | or QVZ3523-102 | V RESISTOR | 1KΩ |
| | R327 | QRD161J-272 | RESISTOR | 2.7KΩ,1/6W |
| | R328 | QRD161J-101 | RESISTOR | 100Ω,1/6W |
| | R329 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| | R330 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| | R331 | QRD161J-151 | RESISTOR | 150Ω,1/6W |
| | R332 | QRD161J-331 | RESISTOR | 330Ω,1/6W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R333 | QRD161J-123 | RESISTOR | 12KΩ,1/6W |
| R334 | QRD161J-473 | RESISTOR | 47KΩ,1/6W |
| R335 | QVZ3523-102AZ | V RESISTOR,MAGENTA LEVEL-2 | 1KΩ |
| | or QVZ3518-102 | V RESISTOR | 1KΩ |
| | or QVZ3518-102AZ | V RESISTOR | 1KΩ |
| | or QVZ3523-102 | V RESISTOR | 1KΩ |
| R336 | QRD161J-751 | RESISTOR | 750Ω,1/6W |
| R337 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R338 | QRD161J-392 | RESISTOR | 3.9KΩ,1/6W |
| R339 | QRD161J-682 | RESISTOR | 6.8KΩ,1/6W |
| R340 | QVZ3523-104AZ | V RESISTOR,SECAM MOD VCO-4 | 100KΩ |
| | or QVZ3518-104 | V RESISTOR | 100KΩ |
| | or QVZ3518-104AZ | V RESISTOR | 100KΩ |
| | or QVZ3523-104 | V RESISTOR | 100KΩ |
| R341 | QVZ3523-223A | V RESISTOR,PAL COLOR PHASE-3 | 22KΩ |
| | or QVZ3518-223 | V RESISTOR | 22KΩ |
| | or QVZ3518-223A | V RESISTOR | 22KΩ |
| | or QVZ3523-223 | V RESISTOR | 22KΩ |
| R342 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R343 | QRD161J-822 | RESISTOR | 8.2KΩ,1/6W |
| R344 | QVZ3523-333AZ | V RESISTOR,LIMITER LEVEL | 33KΩ |
| | or QVZ3518-333 | V RESISTOR | 33KΩ |
| | or QVZ3518-333AZ | V RESISTOR | 33KΩ |
| | or QVZ3523-333 | V RESISTOR | 33KΩ |
| R345 | QRD161J-513 | RESISTOR | 51KΩ,1/6W |
| R346 | QRD161J-152 | RESISTOR | 1.5KΩ,1/6W |
| R347 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R348 | QVZ3523-332AZ | V RESISTOR,R SC VCO | 3.3KΩ |
| | or QVZ3518-332 | V RESISTOR | 3.3KΩ |
| | or QVZ3518-332AZ | V RESISTOR | 3.3KΩ |
| | or QVZ3523-332 | V RESISTOR | 3.3KΩ |
| R349 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R350 | QVZ3523-222AZ | V RESISTOR,SECAM MOD VCO-1 | 2.2KΩ |
| | or QVZ3518-222 | V RESISTOR | 2.2KΩ |
| | or QVZ3518-222AZ | V RESISTOR | 2.2KΩ |
| | or QVZ3523-222 | V RESISTOR | 2.2KΩ |
| R351 | QVZ3518-332 | V RESISTOR,B SC VCO | 3.3KΩ |
| R352 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R353 | QVZ3518-222 | V RESISTOR,SECAM MOD VCO-3 | 2.2KΩ |
| R354 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R355 | QVZ3518-153 | V RESISTOR,MAGENTA LEVEL-1 | 15KΩ |
| R356 | QRD161J-153 | RESISTOR | 15KΩ,1/6W |
| R357 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| R358 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R359 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R360 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| R361 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R362 | QRD161J-333 | RESISTOR | 33KΩ,1/6W |
| R363 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| R364 | QRD161J-102 | RESISTOR | 1KΩ,1/6W |
| R365 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R366 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| R367 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R368 | QRD161J-333 | RESISTOR | 33KΩ,1/6W |
| R369 | QRD161J-103 | RESISTOR | 10KΩ,1/6W |
| R371 | QRD161J-221 | RESISTOR | 220Ω,1/6W |
| R372 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C301 | QCC11CJ-473 | CAPACITOR | 0.047μF,16V |
| C302 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C303 | QCC11CJ-473 | CAPACITOR | 0.047μF,16V |
| C304 | QCC11CJ-223 | CAPACITOR | 0.022μF,16V |
| C305 | QCC31CJ-333 | CAPACITOR | 0.033μF,16V |
| C306 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C307 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C308 | QEB61CM-106 | LL CAP | 10μF,16V |
| C309 | QEB61HM-474 | LL CAP | 0.47μF,50V |
| C310 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| C311 | QCSB1HJ-330 | CAPACITOR | 33PF,50V |
| C312 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C313 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C314 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C315 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| C316 | QCBB1HJ-820 | CAPACITOR | 82PF,50V |
| C317 | QCT25CH-220 | CAPACITOR | 22PF |
| C318 | QCSB1HJ-180 | CAPACITOR | 18PF,50V |
| C319 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C320 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C321 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C322 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C323 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C324 | QCC11CJ-104 | CAPACITOR | 0.1μF,16V |
| C325 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C326 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C327 | QETC1HM-104 | E CAPACITOR | 0.1μF,50V |
| C328 | QETC1HM-104 | E CAPACITOR | 0.1μF,50V |
| C329 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C330 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| C331 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C332 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C333 | QCSB1HK-6R8 | CAPACITOR | 6.8PF,50V |
| C334 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C335 | QCBB1HJ-681 | CAPACITOR | 680PF,50V |
| C336 | QCXB1CM-122 | CAPACITOR | 0.0012μF,16V |
| C337 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C338 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C339 | QCXB1CM-222 | CAPACITOR | 0.0022μF,16V |
| C340 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C341 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C342 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| C343 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C345 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C346 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C347 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C348 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C349 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| C350 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C351 | QCXB1CM-682 | CAPACITOR | 0.0068μF,16V |
| C352 | QCBB1HJ-391 | CAPACITOR | 390PF,50V |
| C353 | QCC11CK-104 | CAPACITOR | 0.1μF,16V |
| C354 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| C355 | QCXB1CM-682 | CAPACITOR | 0.0068μF,16V |
| C356 | QCBB1HJ-391 | CAPACITOR | 390PF,50V |
| C357 | QCC11CJ-104 | CAPACITOR | 0.1μF,16V |
| C359 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| L301 | PU48530-101K | COIL | 100µH |
| L302 | PU48530-101K | COIL | 100µH |
| L303 | PU48530-101K | COIL | 100µH |
| L304 | PU59988-180J | COIL | 18µH |
| L305 | PU60898 | COIL, PAL COLOR PHASE-5 | |
| L307 | PU48530-101K | COIL | 100µH |
| L308 | PU59988-330J | COIL | 33µH |
| L309 | PU47051-153 | COIL | 15mH |
| LPF301 | PU60901 | LOW PASS FILTER | |
| LPF302 | PU60901 | LOW PASS FILTER | |
| BPF301 | PU60952 | BAND PASS FILTER | |
| LC301 | PU61086 | V COIL,PAL BELL FILTER | |
| | or PU60220 | V COIL | |
| ⚠ X301 | PU59335 | CRYSTAL RESONATOR | |

### - VIDEO SWITCH SECTION -

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| IC401 | MM1031XS | IC | |
| IC402 | BA7630S | IC | |
| Q401 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q402 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q403 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q404 | 2SA854S(QR) | TRANSISTOR | |
| Q405 | 2SA854S(QR) | TRANSISTOR | |
| Q406 | DTC144ES | TRANSISTOR | |
| Q408 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q409 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q410 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q411 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q412 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| Q413 | 2SC3199-TJK | TRANSISTOR | |
| | or 2SC1740S(QRS) | TRANSISTOR | |
| D401 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D402 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D403 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D404 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D407 | 1SS133 | DIODE | |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| | or MA165 | DIODE | |
| D408 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D410 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| R401 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R402 | QRD161J-622 | RESISTOR | 6.2KΩ,1/6W |
| R403 | QRD161J-272 | RESISTOR | 2.7KΩ,1/6W |
| R404 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| R405 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| R406 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| R407 | QRD161J-182 | RESISTOR | 1.8KΩ,1/6W |
| R408 | QRD161J-182 | RESISTOR | 1.8KΩ,1/6W |
| R409 | QRD161J-562 | RESISTOR | 5.6KΩ,1/6W |
| R410 | QRD161J-681 | RESISTOR | 680Ω,1/6W |
| R411 | QRD161J-433 | RESISTOR | 43KΩ,1/6W |
| R412 | QRD161J-203 | RESISTOR | 20KΩ,1/6W |
| R413 | QRD161J-272 | RESISTOR | 2.7KΩ,1/6W |
| R414 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| R415 | QRD161J-273 | RESISTOR | 27KΩ,1/6W |
| R416 | QRD161J-183 | RESISTOR | 18KΩ,1/6W |
| R417 | QRD161J-122 | RESISTOR | 1.2KΩ,1/6W |
| R418 | QRD123J-391SX | RESISTOR | 390Ω,1/2W |
| R419 | QRD123J-391SX | RESISTOR | 390Ω,1/2W |
| R420 | QRD161J-750 | RESISTOR | 75Ω,1/6W |
| R421 | QRD161J-750 | RESISTOR | 75Ω,1/6W |
| R422 | QRD161J-750 | RESISTOR | 75Ω,1/6W |
| R425 | QRD161J-225 | RESISTOR | 2.2MΩ,1/6W |
| R426 | QRD161J-225 | RESISTOR | 2.2MΩ,1/6W |
| R427 | QRD161J-223 | RESISTOR | 22KΩ,1/6W |
| R428 | QRD161J-393 | RESISTOR | 39KΩ,1/6W |
| R429 | QRD161J-222 | RESISTOR | 2.2KΩ,1/6W |
| C401 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C402 | QETC1HM-105 | E CAPACITOR | 1µF,50V |
| C403 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C404 | QCC11CJ-104 | CAPACITOR | 0.1µF,16V |
| C405 | QCC11CJ-104 | CAPACITOR | 0.1µF,16V |
| C406 | QCC11CJ-104 | CAPACITOR | 0.1µF,16V |
| C407 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C408 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C409 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C410 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C411 | QENC1HM-105 | NP E CAPACITOR | 1µF,50V |
| C412 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C413 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C414 | QENC1HM-105 | NP E CAPACITOR | 1µF,50V |
| C415 | QENC1HM-105 | NP E CAPACITOR | 1µF,50V |
| C416 | QETC1HM-105 | E CAPACITOR | 1µF,50V |
| C417 | QEN61AM-476 | NP E CAPACITOR | 47µF,10V |
| C418 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C419 | QETC0JM-476 | E CAPACITOR | 47µF,6.3V |
| C420 | QETC1CM-476 | E CAPACITOR | 47µF,16V |
| C421 | QCVB1CN-103 | CAPACITOR | 0.01µF,16V |
| C422 | QETC0JM-477 | E CAPACITOR | 470µF,6.3V |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C423 | QCC11CJ-104 | CAPACITOR | 0.1μF,16V |
| | | | |
| L401 | PU48530-101K | COIL | 100μH |
| L402 | PU48530-101K | COIL | 100μH |
| L403 | PU48530-101K | COIL | 100μH |
| L404 | PU48530-101K | COIL | 100μH |
| L405 | PU48530-101K | COIL | 100μH |

### – TERMINAL SECTION –

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R501 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| R502 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| R504 | QRD161J-472 | RESISTOR | 4.7KΩ,1/6W |
| R505 | QRD161J-104 | RESISTOR | 100KΩ,1/6W |
| R506 | QRD161J-824 | RESISTOR | 820KΩ,1/6W |
| | | | |
| C503 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| C504 | QCBB1HJ-102 | CAPACITOR | 0.001μF,50V |
| | | | |
| L503 | PU59988-100JW | COIL | 10μH |
| L504 | PU59988-100JW | COIL | 10μH |
| | | | |
| LC501 | PU61083-222 | N FILTER | |
| LC502 | PU61083-222 | N FILTER | |
| | | | |
| S501 | PESW0558 | SLIDE SWITCH | |
| | | | |
| K502 | PU60281-5 | FERRITE BEADS | |

# SECTION 6
# TECHNICAL INFORMATIONS

## 6.1 CPU PIN FUNCTIONS

### 1. Mechacon CPU pin function IC601

| PIN NO. | LABEL | IN/OUT | NOTE |
|---|---|---|---|
| 1 | Vcc | IN | UNSW 5V |
| 2 | V.REF | IN | UNSW 5V |
| 3 | LOADING M1 | OUT | FWD L, REV H, BRAKE H, STOP L |
| 4 | LOADING M2 | OUT | FWD H, REV L, BRAKE H, STOP L |
| 5 | START SENSOR | IN | LEADER TAPE DETECT (DET ON:L) |
| 6 | AVG FM | IN | AUTO TRAKING DATA INPUT |
| 7 | THERM | IN | THERMIC CORRECTION |
| 8 | MODE SW B | IN | MECHANISM MODE DETECT |
| 9 | MODE SW A | IN | |
| 10 | MODE SW C | IN | |
| 11 | REC SAFETY SW | IN | REC SAFETY SW DETECT (ON:L) |
| 12 | SHARPNESS CTL | OUT | SHARPNESS CONTROL ON:H |
| 13 | DRUM CTL VOLTAGE | OUT | DRUM MOTOR CONTROL/CORRECTION |
| 14 | CAPSTAN CTL VOLTAGE | OUT | CAPSTAN MOTOR CONTROL/CORRECTION |
| 15 | CASSETTE SENSOR | IN | CASSETTE INPUT/OUTPUT DETECT (DET ON:L) |
| 16 | END SENSOR | IN | TRAILER TAPE DETECT (DET ON:L) |
| 17 | DRUM FF | IN | DRUM MOTOR SPEED DETECT AND TIMING CONTROL |
| 18 | CTL PULSE | IN | MODE DETECT,BLANK TAPE DETECT |
| 19 | CAPSTAN REV | OUT | CAPSTAN MOTOR CONTROL (FWD:H , REV:L) |
| 20 | V.PULSE | OUT | SPECIAL PB:ON |
| 21 | HEAD SELECT | OUT | SP:L , LP:H |
| 22 | BEST SEARCH | OUT | BEST SEARCH:H , NORMAL:L |
| 23 | S-VHS CASSETTE SW | IN | S-VHS TAPE IN:L , VHS TAPE IN:H |
| 24 | SP FG | IN | SUPPLY REEL ROTATION DETECT,TAPE REMAINING DATA |
| 25 | TU FG | IN | TAKE-UP REEL ROTATION DETECT,TAPE REMAINING DATA |
| 26 | CAPSTAN FG | IN | MODE DETECT,TAPE REMAINING DATA |
| 27 | CN Vss | – | GND |
| 28 | RESET | IN | AC IN RESET |
| 29 | X IN | IN | MAIN SYSTEM CLOCK (4MHz) |
| 30 | X OUT | OUT | |
| 31 | ϕ | – | NC |
| 32 | Vss | – | GND |
| 33 | AUDIO SERIAL CLOCK | OUT | AUDIO SERIAL DATA TRANSFER CLOCK |
| 34 | HiFi REC START | OUT | HiFi REC START:L |
| 35 | AUDIO SERIAL DATA | OUT | AUDIO CONTROL SERIAL DATA |
| 36 | AUDIO MUTE | OUT | AUDIO MUTE:H |
| 37 | C.AUTO JUMP STOP | OUT | COLOR AUTO JUMP STOP |
| 38 | C.1H JUMP | OUT | COLOR 1H JUMP CONTROL |
| 39 | SERVO SERIAL DATA | OUT | 16 BIT SERIAL DATA FOR SERVO IC CONTROL |
| 40 | C.P DATA | OUT | CHANNEL PULSE CONTROL DATA |
| 41 | FM DET | OUT | S-VHS PB:H , VHS PB:L |
| 42 | POWER CONTROL | OUT | POWER ON:L , OFF:H |
| 43 | A ERASE HEAD CTL | OUT | AUDIO ERASE HEAD ON:L |
| 44 | REC START | OUT | REC START:L |
| 45 | D.O CTL | IN | FM AUDIO DET |
| 46 | CATV CONTROL | IN | SYSTEM 1:H , SYSTEM 2:L |
| 47 | SCRAMBLE/TEXT | IN/OUT | SCRAMBLE INPUT:L , TEXT OUTPUT:L |
| 48 | INDEX | IN/OUT | INDEX DATA (VISS) WRITE CONTROL AND DETECT ON:L |
| 49 | MEMORY DATA | IN/OUT | MEMORY DATA (SLOW TR DATA ,CH SKIP) |
| 50 | MEMORY CE | IN | MEMORY IC CHIP ENABLE |
| 51 | SERIAL CLOCK | IN | SERIAL DATA TRANSFER CLOCK |
| 52 | LOCK DET | IN | TUNING CONDITION DETECT |
| 53 | SYNC DET | IN | SYNC DETECT , BLUE BACK CONTROL |
| 54 | PLL DATA | OUT | TUNING DATA |
| 55 | TUNER CONTROL | OUT | TUNER ON:H |
| 56 | EXP DATA | OUT | 16BIT EXPANDED DATA SERVO IC CONTROL |
| 57 | SECAM DET | IN | SECAM DET:L , PAL DET:H |
| 58 | TRICK | OUT | SPECIAL PB:L |
| 59 | R.REV | OUT | RETAKE REVERSE:L |
| 60 | PAUSE | OUT | CAPSTAN MOTOR CONTROL (PAUSE:L/NORMAL:H) |
| 61 | SERVO | OUT | CAPSTAN MOTOR CONTROL (SERVO:H/MECHACON:L) |
| 62 | TIMER SERIAL CLOCK | OUT | TIMER/MECHACON SERIAL DATA TRANSFER CLOCK |
| 63 | TIMER DATA | IN/OUT | TIMER/MECHACON SERIAL DATA |
| 64 | REMOTE PAUSE | OUT | REMOTE PAUSE:L |

**Table 6-1-1** Mechacon CPU pin function

## 2. Timer/display CPU pin function IC1

| PIN NO. | LABEL | IN/OUT | NOTE |
|---|---|---|---|
| 1 | Sd | OUT | KEY SCAN PULSE OUTPUT |
| 2 | NC | OUT | |
| 3 | Sb | OUT | KEY SCAN PULSE OUTPUT |
| 4 | Sa | OUT | KEY SCAN PULSE OUTPUT |
| 5 | POWER DOWN | IN | POWER DOWN DETECT(POWER DOWN:L) |
| 6 | DISP/OS CLOCK | OUT | DISPLAY/ON SCREEN DATA TRANSFER CLOCK |
| 7 | DISP/OS DATA | OUT | DISPLAY/ON SCREEN SERIAL DATA |
| 8 | TEST | IN | TEST POINT(CLOCK ADJUST/FDP CHECK) |
| 9 | REMOTE | IN | 16BIT REMOTE DATA |
| 10 | NC | – | |
| 11 | CNT PLS | IN | LINEAR TIME COUNTER DATA |
| 12 | CNT PLS | IN | LINEAR TIME COUNTER DATA |
| 13 | KS 0 | IN | KEY SCAN DATA INPUT |
| 14 | KS 1 | IN | |
| 15 | KS 2 | IN | |
| 16 | KS 3 | IN | |
| 17 | M/C DATA | IN/OUT | MECHACON/TIMER SERIAL DATA |
| 18 | M/C CLOCK | OUT | MECHACON/TIMER DATA TRANSFER CLOCK |
| 19 | SDA | IN/OUT | VIDEO PROGRAM SYSTEM SERIAL DATA |
| 20 | SCL | OUT | VIDEO PROGRAM SYSTEM DATA TRANSFER CLOCK |
| 21 | OS CS | OUT | ON SCREEN IC CHIP SELECT:L |
| 22 | OS RESET | OUT | ON SCREEN IC RESET:L |
| 23 | DISP CS | OUT | DISPLAY IC CHIP SELECT:L |
| 24 | AUDIO INT | IN | AUDIO CONTROL IC CHIP SELECT:L |
| 25 | NC | – | |
| 26 | SC | OUT | SIMULCAST:H |
| 27 | AUDIO CLK | OUT | AUDIO CONTROL SERIAL DATA TRANSFER CLOCK |
| 28 | PROG | IN | PROGRAM BLUE BACK MODE:H |
| 29 | NC | – | |
| 30 | X1 | IN | MAIN SYSTEM CLOCK(4.19MHz) |
| 31 | X2 | OUT | |
| 32 | Vss | – | GND |
| 33 | XT1 | IN | GND |
| 34 | NC | – | |
| 35 | NC | – | |
| 36 | NC | – | |
| 37 | NC | – | |
| 38 | AUD DATA | OUT | AUDIO CONTROL SERIAL DATA |
| 39 | PESET(L) | IN | RESET AT CONNECT VCR TO AC |
| 40 | NC | – | |
| 41 | NC | – | |
| 42 | NC | – | |
| 43 | NC | – | |
| 44 | NC | – | |
| 45 | NC | – | |
| 46 | NC | – | |
| 47 | NC | – | |
| 48 | NC | – | |
| 49 | NC | – | |
| 50 | Sp | OUT | KEY SCAN PULSE OUTPUT |
| 51 | So | OUT | |
| 52 | Sn | OUT | |
| 53 | Sm | OUT | |
| 54 | Sl | OUT | |
| 55 | Sk | OUT | |
| 56 | V LOAD | IN | GND |
| 57 | V PRE | IN | GND |
| 58 | Sj | OUT | KEY SCAN PULSE OUTPUT |
| 59 | Si | OUT | |
| 60 | Sh | OUT | |
| 61 | Sg | OUT | |
| 62 | Sf | OUT | |
| 63 | Se | OUT | |
| 64 | VDD | IN | UNSW 5V |

**Table 6-1-2** Timer/display CPU pin function